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ORIGINAL LECTURES.

THE TREATMENT OF SPINAL DISEASES.

A clinical lecture delivered at the Jefferson Medical College, Session of 1882–83.

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GENTLEMEN: No thoughtful student can have failed to observe the greater attention paid to the pathology and diagnosis of spinal diseases than to their therapy. Indeed, the treatment is usually dismissed in a few words, as an unsatisfactory subject. Notwithstanding I have, myself, as a teacher of therapeutics, given rather more than ordinary attention during my lectures here to this department of the subject, I must still admit that my efforts in this direction have not been as full as the importance of the subject demands. I have now to make an effort to supply this omission—to place before you the more recent results attained in the treatment of spinal affections. By thus taking a comprehensive view of the whole field, we may the better comprehend the relation of the several parts and arrive at conclusions more accurately than by the consideration of individual maladies only.

From the therapeutical point of view, these spinal diseases may be comprehended in three groups: Acute inflammatory, chronic inflammatory, and nutritional diseases. It is of no special importance to fix the precise seat of the inflammation, for the principles underlying the therapeutical management are the same. To a just estimate of the curative effect of remedies in these inflammatory affections, a true conception of the spinal circulation is necessary. Look at this diagram. Observe the voluminous and tortuous veins of the spinal canal. To the nutritious arteries of the cord they bear the numerical proportion of four to one. In other words, if the capacity of the arterial supply be put at *one*, the venous capacity must be stated as *four*. It follows that the blood current sent into the spinal canal through the arteries must be slowed there to fill out the veins. This, you will explain, is an arrangement to facilitate the functional work of the spinal cord, under the various conditions interfering with the normal and equable blood-supply. Without stopping to consider the necessity, we are now concerned with the fact, simply. The blood-supply having this peculiar arrangement, do these anatomical conditions affect the question of remedies? I unhesitatingly answer this question in the affirmative.

One of the remedies most relied on to affect the intra-spinal circulation is ergot. I hold that its administration in acute spinal inflammation is improper, because of the peculiarity of its action. It induces an anæmia of the arterial distribution—an ischæmia, properly speaking—but the blood, thus driven from the arterial side, accumulates on the venous side; hence it follows that whilst the arterial supply may be reduced, the veins of the spinal canal are distended unduly. The compression thus exerted on the cord has, as I conceive, a most hurtful influence on its nutrition, and hastens the progress of the changes inaugurated by the inflammation.

If ergot is inadmissible in acute inflammation of the intra-spinal organs, to what remedies shall we then resort? You may not be at all prepared for the statement I have to make, but, speaking from the standpoint of my personal observation, I have to say that aconite, digitalis, veratrum viride, opium, and bromide of potassium are the most useful remedies in the cases of acute spinal inflammation. Each, however, has its special range of utility. All agree in the power to limit the blood supply to the spinal canal, but in what degree, if at all, does each affect the intra-spinal venous circulation? Far more than ergot. If I may again refer to my own experience, I can recommend the use of digitalis first, and, if this disagree with the stomach, aconite. You will find it most useful to begin with the infusion of digitalis, administering from a tea- to a tablespoonful every four hours, until the conditions for which it is used cease, or the stomach fails to retain it. If irritability of the stomach is a bar to its internal use, it may be effectively employed topically, the leaves being steeped in hot water, placed in a porous bag, and applied to the spine or abdomen. This remedy, you will find, will do more to restore the normal balance of the intra-spinal circulation than any other now at our command.

Next to it in point of utility is the tincture of aconite root. This must be given until the characteristic tingling is produced, or the pulse-rate is lowered. Acting both on the skin and kidneys, it favors the excretion of the products of inflammatory waste. Veratrum viride is not as useful as aconite—its action little extending beyond the hydrostatic effects. Opium, especially morphia, hypodermatically, becomes indispensable when pain is a pronounced feature in all cases, and experience has shown its utility in meningeal inflammation. The bromides, especially bromide of potassium, are indicated when reflex, convulsive phenomena are present; such as muscular cramp, twitchings, etc., indicating irritation of the motor tract.

Are there any data by means of which we may fix the time for the administration of the arterial sedatives? As these remedies only affect the vessels primarily, and secondarily the structure of tissue, when shall they be discontinued? In respect to this point, there is always no little indecision; but a correct conclusion may be reached by a careful consideration of those symptoms, indicating the occurrence of exudations—symptoms whether of excitation or of depression of function. So long as the symptoms of excitation—hyperæsthesia and spasm—continue, there can be no doubt that those remedies will be useful which have to do with the blood supply. When exudations occur and pressure is thereby brought to bear on the intra-spinal organs, the symptoms of depression or of arrest of function come on—anæsthesia and paresis.

Arterial depressants can do no possible good; only injury, indeed, when the local status is no longer that of hyperæmia and excited action; when the process of effusion and exudation comes on, we have to deal with depression of function. Remedies having very different powers then come into use.

Merely fluid effusion into the spinal canal is more easily disposed of than a solid exudation. Usually, however, the products of inflammation include both fluid and solid exudations. Absorption of merely fluid exudation may be affected by a judicious combination of purgatives and diaphoretics, especially of Epsom salts and pilocarpine. The disposition of solid exudations is more difficult. Considerable experience with the use of ammonia and its salts, especially of the

acetate and carbonate, has given me very positive confidence in the power of this remedy. The most convenient mode of administering it is to dissolve the carbonate in the officinal *liquor ammonii acetatis*, so that five grains of the former will be given in a tablespoonful of the latter. At or about the time when the symptoms of depression, due to the pouring out of an exudation, come on, the solution of ammonia should be administered. The important point is to so alkalinize the blood, that local thrombus and solid exudations may be reabsorbed. To accomplish this result, it is necessary to keep the blood well alkalinized. Although this may fail, it is surely the most promising expedient in such cases, and experience has proved its utility.

If the physician is so fortunate as to see the case at the very moment of its inception, the best results are to be expected from the administration of a maximum dose of quinine and morphine—20 grains of the former and one-half grain of the latter; but unfortunately, cases of acute spinal inflammation are not often seen at their beginning. The attempts to jugulate an inflammation can therefore be very rarely made with success. The cases of chronic inflammation are relatively more frequent. They succeed to the acute; they may arise *de novo*. Hyperplasia of the neuroglia, granular degeneration of nerve-fibres and cells, fatty and granular degeneration of the intima of the vessels, and crowding of the perivascular lymph-spaces with leucocytes, are the most important initial changes, and these lead to various inflammatory and atrophic lesions. The various scleroses belong to the group of chronic inflammatory affections—such as antero-lateral and posterior spinal sclerosis. The alterations extend over many years, but they are, properly speaking, of the chronic inflammatory type. It must be obvious to you that some of the most important therapeutical questions are concerned in the management of these affections. The means employed are partly topical; partly systemic. A daily morning and evening hot douche to the spine, of fifteen minute's duration. I have found it to be exceedingly effective.

In the absence of suitable appliances for the douche, a sponge dipped in hot water and passed over the spine rapidly for fifteen minutes at a time may be accepted as its equivalent. You may regard this as trivial, but I assure you the day of small things has not yet passed. The importance of physical impressions on the peripheral nerves is indeed very great. Strumpf, the well-known neurologist of Düsseldorf, has lately got remarkable curative results in posterior spinal sclerosis by cutaneous faradization, by excitation with the faradic brush of the skin of the back, especially of the spine and of the limbs. This method consists in passing the faradic brush for a half-hour at a time thoroughly over the parts in which the lesion is known to exist, and over those parts in which symptoms are felt. You will probably feel inclined to ask, How can cutaneous faradization effect the cure of a disease which has hitherto resisted the most efficient treatment? It may be quite impossible to give an adequate explanation, but it is certain that peripheral irritation, if restrained within proper limits, has a remarkable curative effect on the condition of internal organs so situated as to be in anatomical relation to the site of irritation. Thus, Strumpf has found that cutaneous faradization of one side will cause an increase of the temperature in the corresponding position on the other side. Erb strongly advocates the use of the rubbing wet-pack in chronic myelitis. He does not advise cold or hot water, but merely tepid. The patient, enveloped in a sheet wrung out in tepid water, is gently rubbed with the sheet *in situ*. To the same class of actions belongs massage, but this alone has, in my experience, been disappointing. If the application can be confined to the gentlest titillation of the cutaneous nerves, good may come of it; but in the spinal trouble I am referring to, all violent rubbing and kneading apparently does mischief. Granville's *percutier*, lightly used, has a good effect also. It is a matter within the range of everybody's experience that the most painful inflamed surface will be anæsthetized by the gentlest friction if persistently employed. It is probable, therefore, that the good effects of peripheral applications in spinal affections are largely due to the communication of very gentle impulses originated at the periphery, in the sensory terminals.

Besides these topical applications which act through the sensory nerves, there is a local remedy which acts directly on the cord—galvanism. Since it has been shown that the galvanic current penetrates through the bony envelope of the cord, the only question is as to the mode of applying the electrodes. Strangely enough, opinions are yet divided as to the effect of direct or inverse currents. My own conviction is, that the view of Onimus and Legros is substantially correct. According to them, the descending galvanic current increases the activity of the circulation in the part acted on, by stimulating the vermicular contractions of the organic muscular fibre of the vessels. The result of such increased vermicular motion, must necessarily be a more active circulation, and more rapid interchanges between the blood and the tissues. A descending galvanic current must therefore promote the nutrition of parts, if we admit the correctness of the views enunciated by Onimus and Legros. It is, therefore, in chronic spinal affections that we have a right to expect the best results from galvanic treatment. As the resistance offered by the bones of the spinal column is so great, the electro-motive force of the galvanic battery must be sufficient to overcome it.

To treat such cases efficiently, not only must the number of elements be large, but the resistance within the battery must be nearly that of the part of the body acted upon, to avoid the shock and burning pain. The electrodes should be of large, well-moistened sponges—one placed on the nape of the neck, the other on the sacrum. As the strength of current required for these spinal applications is so great, unless the sponges are large and well moistened, very severe burning will be produced. The number of elements required will be from thirty to sixty, or the strength in *milleampères*, from ten to twenty. There should be a daily *séance* of ten to fifteen minutes' duration, and the treatment should be continued over many months to obtain permanent results. It is the neglect of these measures, inattention to details, and impatience over delays that have led to so much disappointment in the application of galvanism. I am, from personal observation, fully able to confirm the high estimate placed by Erb on this method of treating chronic spinal affections. Neither galvanism nor any other remedy can restore lost parts; hence, when the anatomical elements are destroyed, function must ever after be imperfectly performed.

I must now call your attention to the most useful internal remedies in chronic cases of spinal inflammation. The best results have been obtained from the so-called metallic tonics, notably nitrate of silver, but the danger of staining and of causing gastric ulceration are serious objections to the persistent administration of silver salts. In the scleroses, and in connective tissue hyperplasia of organs in general, I have seen excellent results from the internal use of the chloride of gold and sodium. This may be given in a granule containing one-twentieth of a grain three times a day. The corrosive chloride of mercury has similar effects, but it does not seem to me to be equal in curative power to the gold chloride.

There are so many ways, owing to the almost universal use in domestic life of the noxious metals, for slow metallic poisoning to occur, that the affections thus produced are probably much more numerous than we are now aware of. A typical example of locomotor ataxia came into my hands, in the person of a water gilder. Syphilis is now held to be the chief pathogenetic factor in this disease, but there are two modes in which this relation exists—direct and indirect. Syphiloma occurs when the first cutaneous lesions appear, but especially during the time of the older constitutional symptoms. The first are comparatively mild, the second consist of gummata, etc. These lesions are direct—that is, they belong to the ordinary course of development—of evolution of the disease. The indirect arise because of the cachexia—the lowered vital resistance of the organism, produced by the long-continued operation of the syphilitic disease and of the remedies used to remove it. In the former, or the direct syphilitic lesions, the specific remedies are curative; in the latter or indirect, they rarely do good; in fact, their administration is adding insult to injury, in many instances.

I have long entertained the notion that the utility—the remarkable utility—of iodide of potassium in some cases is due to one of two conditions: to an overlooked syphilitic infection; to metallic poisoning. This is so certainly a fact, that in doubtful cases I advise the use of full doses of iodide of potassium as a preliminary to further treatment. In all distinctly specific cases there can be no possible doubt in regard to the efficacy of anti-syphilitic treatment. Now let me tell you a fact not generally known, or, if known, not sufficiently appreciated: Mercury, in syphiloma of the nervous system, tertiary in type, is, in some instances, quickly curative when the iodides fail utterly. *When there is reason to suspect mineral poisoning, and in all doubtful cases, the iodides should be administered in full doses, either tentatively or as the major treatment.*

The third group, from the therapeutical point of view, consists of those spinal disorders not due to a recognizable inflammatory process, but to some change in the function of nutrition. In this position may be placed the changes that are senile, whether of time or prematurely. The most important therapeutical point in these cases is to supply the material in which the tissues are deficient. A combination of the lime salts—the phosphate especially—with a fat, cod-liver oil, is most useful in these cases, but good results can be reached only by persistent use of the means of treatment. In these cases of senile degeneration, much good is accomplished by the use of the salts of ammonia to prevent the formation of thromboses, or to effect their solution if formed. Strychnia and quinine, to stimulate the organic functions, render an important service also.

The subcutaneous use of strychnia is often remarkably effective in all of the chronic spinal affections characterized by loss of muscular power. It is, of course, inadmissable in those stages of these maladies having an active state of the local circulation—in all acute cases, in chronic cases with acute exacerbations. The quantity to use in this way ranges from $\frac{1}{60}$ to $\frac{1}{30}$ grain daily, once, or on alternate days. The hypodermatic injection of strychnia may, indeed, serve as a means of distinguishing the character of the spinal trouble. It increases the paralytic symptoms when an inflammatory condition is present, and improves the functional and chronic diseases.

Galvanism, applied as already pointed out, to stimulate the spinal circulation, and faradism at the periphery, contribute to the nutrition of the cord by promoting the activity of the circulation in general. By a proper combination of these expedients, we can often effect very decided improvement.

As you will observe, I have not alluded to the treatment of the large group of so-called functional disorders of the spinal cord. The consideration of this is a sufficiently fruitful topic of itself for a lecture—for many lectures, indeed—and hence I must postpone it to a more convenient season.

ORIGINAL ARTICLES.

PNEUMO-URIA.

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SURGEONS are for the most part in accord in believing that when gas is found within the human bladder its presence there is to be accounted for only by assuming that it has been introduced from without, through the urethra, or through a vesico-intestinal fistula, or that it is due to decomposition of the urine, or of blood-clot in the urine.

That a gas resembling air, colorless, sweet and pure, not ammoniacal, not sulphuretted hydrogen, and not introduced from without, that such a gas may form within the bladder is not generally credited by the best-informed members of the medical profession.

Having two cases bearing directly upon this question I think it proper to place them on record, the more so since I find that the subject has been already alluded to by several writers, notably Bouchut, and the malady by him considered a neurosis. The name pneumo-uria was given it by Raciborski.

The record of the following cases may serve to call attention to the subject and bring to light other instances in point.

CASE I.—In February, 1868, a gentleman of 67 applied to Dr. Van Buren for relief from frequency of urination with some urgency in the desire to accomplish the act, with night calls, etc., symptoms from which he had suffered for ten years, and which were plainly due to failure in expulsive energy on the part of the bladder and to a prostate one-third larger than normal. His urine was acid, 1020, containing a small amount of pus. He could not entirely empty his bladder. There was no gas in the bladder at this date.

Under the use of a catheter improvement in urination was noted, but gradually with a steady increase in the size of the prostate it became impossible for the patient to retain his water, when the call to urinate came suddenly upon him, and he was forced to resort to the use of a urinal in travelling, and upon going out in the evening. Later it became impossible to pass any instrument into the bladder, and finally, in the summer of 1873, the patient died from kidney disease in the classical mode of death commonly attendant upon prolonged obstructive prostatic disease.

I never attended him directly until during his last days. Dr. Van Buren remembers that the patient passed gas occasionally from his penis, but I made

no especial note of the fact and cannot remember the dates, although I do remember examining the urine for Dr. Van Buren, for foreign matter and finding none.

After death the body was placed immediately upon ice, and in about twenty-four hours I made an autopsy, mainly to determine why instruments would not enter the bladder.

On opening the abdomen the bladder was seen fully distended, and evidently about half-full of gas. There was no evidence of decomposition about the intestines. The outside of the bladder was not inflamed or adherent to any intestine. I inferred at once that the gas had entered the bladder from a fistula communicating with the bowel, and therefore cut into its dome, allowing all the gas to escape, that I might examine the perforation *in situ*. The bas-fond of the bladder contained urine not putrid—and, as I remember it, not specially ammoniacal—but I searched in vain for a perforation. No fecal matter was in the bladder. I searched among the small intestines and along the top of the bladder, but found no perforation. I removed the bladder, but obtained no clue to the possible source of the gas.

I therefore concluded that the gas was due to some form of decomposition of the urine and made no further investigation. The prostate was quite large and its canal distorted, thus explaining why no instrument had found its way into the bladder.

This case is suggestive only, not demonstrative. The gas was never examined. I had never heard of the existence of gas in the bladder at that date, except as a result of fistula into the intestine. I did not preserve the bladder. I took no written notes at the time of making the autopsy, and my memory as to the exact condition of the urine may be defective. I therefore present the case for what it may be worth. It puzzled me at the time. Whether it was a case of true pneumo-uria or not, I cannot say. It seems to me possible that it was.

CASE II.—X., aged 68, was referred to me by Dr. Schnetter, in September, 1868, his complaint being frequent urination by day and by night, and the passage of wind by the urethra. His frequency of urination had existed something more than a year. He had begun to pass air by the urethra only a few days before visiting me. His urine was alkaline, 1030, containing a little pus; but no starch granules, meat fibres, or other foreign matter. The fluid was murky and possessed of a faintly sweetish ammoniacal odor. A No. 18 (French scale) Mercier catheter entered the bladder without encountering any obstacle, and through it escaped two ounces of reasonably clear urine, followed by a small amount of gas, devoid of any odor. The prostate was slightly enlarged. The patient complained of much pain in the perineum and rectum.

Both testicles became swollen on different occasions later on, and he had considerable discomfort from suppurative eczematous outbreaks about the thighs and scrotum. He was treated symptomatically for these complications, and by sounds and attempts at vesical irrigation together with alkaline diluents, anodynes, and tonics. But he failed steadily in general health and became quite yellow and cachectic. The most minute microscopic examinations of the urinary sediment, carefully repeated at short intervals, were uniformly negative in their results, so far as finding any foreign body that might have come from the intestine was concerned.

In December I asked Dr. Weir to see the patient with me, and we examined him very carefully under ether, with the coöperation of Dr. Schnetter, and of Dr. Ferdinand, of Harlem. Rectal examination showed a prostate but little enlarged. Between the rectum and the bladder, particularly on the left side, there existed a distinct inflammatory thickening of the vesico-rectal septum; it was smooth and regular, not at all nodular, and not suggestive of cancer. On the rectal side as far as the finger could reach, or the eye by the aid of a speculum, there was no ulceration, erosion, or fistula. The inflammatory thickening extended higher than the finger could reach.

A sound in the bladder felt through the vesico-rectal walls showed a moderate amount of thickening not nodular in character. Through a soft catheter the bladder was injected to its fullest capacity under pressure, but no fluid could be seen to trickle into the rectum with the speculum in position. No growth could be felt within the bladder by the searcher. No stone was present.

No chill followed this examination, but the amount of gas passed by the urethra became greatly increased; the urine ammoniacal and putrid. Dr. Ferdinand examined the gas and found it to contain sulphuretted hydrogen. I examined the gas and found it to contain sulphuretted hydrogen; the urine also contained considerable sulphuretted hydrogen in solution. No vegetable cells or meat fibres, or other débris of food, could be found in the urine. Pus, altered epithelial cells, and blood, constituted the deposit, with a few crystals of uric acid, and of triple phosphate.

Under cod-liver oil and local and general measures, the patient's strength and health gradually improved, so that two months later, in February, 1882, the urine was clear and sparkling, 1020, acid, and contained only a few pus cells; but the gas continued. I now drew off the urine and caught the gas for examination, finding it free from sulphuretted hydrogen. The urine was now not ammoniacal, and contained no sulphuretted hydrogen.

This condition of affairs continued through the spring with a gradual gain in ordinary health and strength. In the month of March the bowels became deranged, and the patient passed great quantities of very offensive gas by the rectum. During this period the quantity of gas passed by the urethra greatly diminished, and what did escape was perfectly sweet. In April, the gas from the rectum nearly ceased, while that from the bladder greatly increased in quantity.

In April, the urine being quite clear, I passed a catheter in my office, and drew off under a water-bath into a test-tube 30 cc. of gas, more than an equal quantity escaping after the tube was full. I corked the tube tightly while it was still under water,

and sent it immediately to Prof. Welch, of Bellevue Hospital Medical College, for examination. He pronounced the gas to be simple air, and ventured in explanation that whatever other gas was within the tube had diffused itself through the cork, yet he had the tube within the hour after it had been filled and tightly corked, and his examination corresponded with mine, which was made on the spot.

In May the patient had reached his full normal weight, 149 pounds; the urine continued clear and acid, with a very trifling amount of pus; the gas persisted, but was perfectly sweet.

In July I sent the patient to Europe with letters to Sir Henry Thompson and to Felix Guion. Sir Henry examined him quite thoroughly, and reported to me a negative result. The patient had no gas in his bladder at the time of the examination. No tumor was found by rectal examination, or by the searcher; yet, as there had been occasional slight hæmaturia, and as there were some distorted epithelial cells with large nuclei in the urine, Sir Henry leaned to a diagnosis of cancer, and advised exploration by the finger through the perineum on the patient's return to New York. As to gas in the bladder, Sir Henry observed in his letter: "I have never seen any evidence to my mind warranting me to believe in the production of gas in the bladder, apart from its introduction by the intestine or from without. I by no means deny the possibility, and would be greatly interested in seeing such a case," etc. The patient was made so sore by the thorough examination of Thompson, that he feared to visit Guion; but went in Paris to see Mallez, who did not examine him physically, and gave no opinion except that gas in the bladder was not very uncommon. In France the patient improved daily during twenty-four days, eating and drinking whatever he liked. He passed no gas. No blood escaped his urethra after leaving London, and he returned to New York in the middle of October, passing acid, clear urine, with a light sediment of pus, still passing gas and urinating altogether too frequently; but having gained a number of pounds on his trip, feeling strong and reasonably well, and looking vastly better than at any time for the past eighteen months.

The gas in this case has never contained sulphuretted hydrogen when the urine was clear and acid. Dr. Schnetter ventured the opinion that a communication existed between the bladder and the small intestine, the gases of which intestine are usually air and carbonic acid—but the urine did not contain any excess of carbonates. The gas has not been examined for carbonic acid. It is difficult to obtain it, as the patient objects to the use of a catheter. Moreover, the cellulitis only seemed to involve the vesico-rectal septum. It is to be noted that when the intestines were full of gas, the bladder did not contain as much gas as usual.

There was never any evidence of an escape of urine into the intestinal passages, and certainly no débris of food could ever be detected in the urine. An opening, if one existed, must have been either the track of an abscess (due to the cellulitis) or a cancerous erosion. It could not have been the latter, since the patient's health has improved immensely for six months. If it was the track of an abscess, it must have been very minute, since no urine ever passed through it into the bowel, and it should have closed when the cellulitis got well; Thompson discovered no evidences of cellulitis by the rectal touch.

That there is no intestinal fistula in this case I cannot assert, since the crucial test of an autopsy is lacking; yet the character of the gas and of the urine both tend to substantiate a belief that this may be one of those peculiar cases where a gas resembling air forms in the bladder from causes as yet not understood.

I have found in the literature of the subject two such cases sufficiently accurate in their description to make them acceptable, but unfortunately I have found no case verified by an autopsy, so that the sceptical are still justified in doubting. My own recorded autopsy fails to be conclusive only on the ground that no chemical examination was made of the urine to eliminate the possibility of the decomposition of that fluid as a factor in the gas formation. My memory of the condition of the urine, however, is quite clear. I am absolutely certain that the urine was not putrid.

But for the rarity of the occurrence of the phenomenon, it is not harder to believe that the walls of the bladder can secrete air than to believe the same of the walls of the stomach or intestine. It is not so extraordinary or inexplicable as the colpohyperplasia cystica[1] of Winkel (vaginitis emphysematosa), or any more strange than the formation of gas in the uterus, as vouched for by Bianchi, Astruc, Cullen, and referred to by A. Brierre de Boisemont in his interesting thesis, "*Recherches sur les Pneumatoses, ou sécrétions gazeuses observées dans divers tissus de l'Economie animale.*"[2]

This thesis indeed makes the clearest mention of air in the bladder which I have been able to find, referring as it does, without detail, to a case reported by Wedel in the *Miscellanea curiosa*, p. 85, and stating that Ribes, when prosector to the Medical School at Paris, showed his students an infant whose only malady was the passage of gas by the penis ("qui n'avait pour toute maladie que cette émission de gaz"). He states further that the urine was in no way decomposed, but had all the characters of the urine of a healthy individual.

The most closely observed case of this malady which I have found is one reported by Raciborski, and given at length under the name pneumo-uria in Bouchut's treatise *Du Nervosisme.*[3] I condense it as follows: M. O., 40, a nervous hypochondriacal individual, became alarmed at seeing bubbles of air escape from the meatus toward the end of the act of urination. Raciborski visited him, having the urinary specialist Mercier and the chemist Mialhe in consultation. The latter drew off through a catheter the odorless gas which the bladder contained, directing it under water into a receiver. He examined the gas and the urine, finding the latter normal in composition and the former to be

[1] Archiv. fur Gynäkologie, 1877, II., 406.
[2] Thése de Paris, No. 201, 1825, p. 15.
[3] Second ed., Paris, 1877, p. 245

nitrogen. From this he concluded that the gas was air, the oxygen having been absorbed by the urine. Except nervous symptoms, this patient had had no evidence of any malady of the bladder or of the neighboring organs.

On another occasion, to exclude all foreign sources of air, Mercier passed the catheter upon the patient while he was submerged in a full bath—this in the presence of Drs. Mialhe and Raciborski. Air was obtained as before.

Once, after a voyage of four days to Bordeaux, no gas was found in the bladder on passing the catheter —an analogy with the respite of twenty-four days which my patient experienced after his voyage from New York to Paris.

Raciborski's patient often had difficulty in voiding the urine, particularly in the morning, and sometimes had to make repeated efforts before he could empty the bladder. He had also pains in the renal regions, about the bladder, loins, groins, and thighs. A postscriptum to the case states that during two weeks no air had been found by the catheter, introduced on two occasions, and here the history ceases abruptly.

These few particulars are all the details I can offer concerning this strange malady, pneumo-uria. Its existence is not yet clearly proved, but Mallez seems to accept it, since he assured my patient, who saw him in Paris, that it was far from uncommon for gas to form in the bladder, and that he, the patient, should not be too much concerned about it. Closer observation of cases of this sort is desirable, and an example of it, carefully studied through life, and verified by a reliable autopsy, would be of the utmost value in establishing the existence of the malady upon a sound basis.

CLINICAL REMARKS ON SEVERAL CASES OF PANCREATIC DISEASE.

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IT is unfortunate to have much to say, and yet to have no intelligible language in which to express it. This is somewhat the lot of the pancreas. Composed as this organ is of lobulated glandular tissue, with abundant interstitial connective tissue, and with a system of ducts to carry off the secretions, and well supplied with nerves and bloodvessels, it could not be otherwise than that it should be liable to a variety of diseases.

Morbid anatomy teaches us, accordingly, that the glandular tissue may be the seat of degenerations; the interstitial tissue the seat of inflammation or of neoplasms; and the secretory ducts, the seat of catarrhal inflammation, of calculous formations, or of cystic distention. We are familiar anatomically with fatty degeneration of the pancreas; with atrophic and hypertrophic cirrhosis; with cancer and other morbid growths; with occlusion of the main duct and distention of its radicles; with impaction of the duct; with altered sebaceous secretion; and with pancreatic calculi. But it must be admitted that, clinically, many of these conditions are scarcely present in our minds as actual realities, to be taken into account and searched after in our study of cases of abdominal disease.

The reason of this is not far to seek. The anatomical position and relations of the pancreas render it almost inaccessible to minute examination; the colorless character of its secretion prevents any discoloration of the skin when the duct is obstructed; and the juxtaposition of the stomach, the liver, and the kidneys, the diseases of which are so common and so prominently present in our thoughts, is apt to lead us to refer any symptom of pancreatic disease to some of these other organs.

It can not be doubted, unfortunately, that the inevitable result of this is the frequent failure to recognize important affections of the pancreas, and the reference of the symptoms present to some rather unusual form of gastric or hepatic disease. It may be said, indeed, that but little practical evil results from this, since in the first place many of the affections of the pancreas are incurable, and in the second, the condition of stomach or liver which is erroneously substituted in the diagnosis, will probably be of a character analagous to that actually present in the pancreas, and thus the line of treatment adopted will not be seriously inappropriate. This is a poor excuse, however, and all will acknowledge that if accurate diagnosis of pancreatic diseases were possible, it would be an immense satisfaction to all concerned, would lead to much more reliable prognosis, and would furnish therapeutic indications which might eventually lead to substantial advances in the treatment of these affections. I do not aspire, in the present brief article, to throw any new light on this obscure subject, but merely to record, with a few practical comments, several cases of pancreatic disease that have come under my observation within the past year.

CASE I. *Hypertrophic cirrhosis of liver, with perihepatitis; hypertrophic cirrhosis of pancreas, with chronic catarrh of its duct; chronic catarrhal nephritis; jaundice; ascites; albuminuria; death.*—Emma A., aged 39, of intemperate and immoral habits, and addicted to the use of cigarettes, was admitted to the University Hospital October 12, 1882, and died October 19, 1882. She had had slight, irregular dyspeptic attacks, with habitual constipation, for a year; previous to which time she was strong and healthy. During this year a steadily progressive abdominal enlargement was observed; there was also pain in the abdomen, especially in region of liver, at first dull and occasional, latterly more severe and constant; for the past eight months there had been anorexia and frequent vomiting after taking food (no blood was ever vomited); menstruation ceased eight months ago, and for the past five months there had been occasional epistaxis; jaundice with bile-stained urine began two months ago, and has grown intense; loss of flesh and debility have been steadily progressive. On admission, her weakness was extreme and there were enormous ascites, deep jaundice, albuminuria with granular tube-casts, great enlargement of the liver, and loose, offensive stools. Paracentesis gave temporary relief,

but ascites rapidly returned, and she sank and died seven days after admission.

At the *post-mortem* examination there was hypertrophic cirrhosis of the liver, with marked perihepatitis. There was chronic catarrhal inflammation of the gall-ducts, with marked contraction of the cystic duct and distention of the gall-bladder with thin, pale, yellow mucus.

The pancreas presented a marked state of hypertrophic cirrhosis, with peri-pancreatitis. The pancreatic duct was much narrowed and obstructed by catarrhal products. On section, multitudes of minute collections of cheesy matter were seen to distend the acini of the gland. These statements are abstracted from the admirable report of the necropsy, furnished me by Dr. Formad, who also described the microscopic appearances as showing advanced atrophy of the gland elements, with extensive overgrowth of connective tissue (hypertrophic cirrhosis). In addition, all of the parts which had presented themselves to the naked eye, as little cysts filled with cheesy masses, revealed tubercular granulations with giant cells, obliteration of bloodvessels and well pronounced cheesy changes, these indicating a local tubercular change consequent upon the chronic catarrhal inflammation. The kidneys were in the second stage of catarrhal nephritis.

In this interesting case, which shows so well the pathological affinities of the pancreas and liver, it will be observed that advanced lesions of the pancreas, illustrating cirrhotic inflammation combined with the much more rare form of chronic catarrhal inflammation, described by Klebs under the questionable name of pancreatic acne, were present, and yet would scarcely have been suspected to exist, so completely were any symptoms they may have produced overshadowed by the symptoms of the readily recognized disease of the liver and kidneys. The pain was distinctly referable to the perihepatitis; the jaundice was readily explained by the catarrhal hepatitis, that was evidently associated, as is often the case, with the hypertrophic cirrhosis; and the vomiting, which was much more frequent than in ordinary uncomplicated cirrhosis, was not unreasonably connected with chronic gastric catarrh and the catarrhal nephritis. The brief period the case was under observation prevented an accurate determination of the absence or presence of fatty stools; and there was not even so great a degree of emaciation as might be expected, in so severe and complicated a case. It can not, however, be doubted that the course of this case was modified considerably by such grave lesions of an organ so important as the pancreas.

In the following case ample opportunity was given for study of the symptoms, and for the formation of an accurate differential diagnosis, and yet special peculiarities in the symptoms rendered this a very difficult matter.

CASE II. *Cancer of head of pancreas, with central suppuration; occlusion of gall-duct; perforation of duodenum, with temporary relief; return of occlusion; death.*—Mr. W. C. L., æt. 60, had suffered from a severe concussion of the spine many years previously, which had left a certain degree of neurasthenia, with exaggerated sensitiveness of circulation and digestion. For a number of years it was his habit to have two stools daily, not at all loose, but rather too easy. This was mentioned to me in 1879, and with a view to see if it aided in any way in maintaining the neurasthenia, a course of small doses (gr. ⅛ of nitrate of silver) was given, which promptly checked it and reduced the stools to one daily, which was followed by some improvement in general strength. Occasional slight pain in the stomach was complained of in the latter part of 1879. His health was apparently very good, however, subsequent to this, until, after exposing himself at night on the sea in September, 1880, he had some return of pain and looseness. This yielded readily to simple remedies, and although he continued to have occasional pain in the upper part of the abdomen during the fall and early winter, he attended regularly to his business, and did not have medical advice until January 20, 1881, when jaundice appeared with more marked abdominal pain and looseness of the bowels. The jaundice rapidly grew intense, and was accompanied with debility and loss of flesh.

By March 1st, he was very ill with complete occlusion of the common bile-duct; recurring free epistaxis; slight irregular fever, with average evening temperature of 100½°, with occasional sweats, and with a pulse rate of over 100. There was anorexia, and although the diet was restricted the bowels were opened three or four times daily with white, offensive formed passages. The feces passed very readily, and looked slippery, as though containing undigested fat, but no free oil was seen. He was strictly confined to bed; his food was rigidly restricted; counter-irritation was kept up over the liver, and he took internally a pill of nitrate of silver and opium. He then began to improve slowly but steadily; the fever and sweats subsided, the jaundice grew lighter, appetite improved, the stools were reduced to two daily and began to contain bile; the urine, which had been heavily charged with bile-pigment, grew somewhat lighter, and his spirits and strength improved. There was considerable tenderness in the region of the gall-bladder and duct, and this, combined with the thickness of the abdominal walls, rendered difficult any accurate palpation. It was impossible at any time to isolate any distinct mass or tumor, but there was a slight degree of enlargement of the liver with an indistinct sense of increased resistance on palpation about the position of the gall-duct and head of pancreas. While thus apparently improving however, there was no gain in flesh, even if he did not continue to lose weight. By April 1st, the jaundice and evidences of constitutional irritation were much relieved, and about that date an unaccountable bilious diarrhœa occurred for two or three days, when rapidly all traces of bile disappeared from the urine. The looseness soon ceased, and in a few days there was a rapid return of deep jaundice with highly stained and for the first time slightly albuminous urine; epistaxis recurred; the mind grew dull and wandering, to be soon followed by a coma-

tose state, and death occurred on April 25, 1881, with all the symptoms of profound toxæmia.

Post-mortem examination showed that the head of the pancreas was the seat of cancerous degeneration, forming a rounded hard mass about 2½ inches in diameter, which was closely adherent to the duodenum and the common bile-duct. The centre of the cancerous mass was the seat of suppurative softening, forming a cavity of more than one inch in diameter. At the time of making the autopsy this cavity was distended with a puriform liquid, and in this condition it pressed so strongly upon the common bile-duct as to completely occlude it. But at the point where the growth was most closely attached to the duodenum, there had been an lucerative perforation, which at this time was closed by a valve-like fold of mucous membrane. As soon as this was raised and the pus allowed to discharge itself, the walls of the growth collapsed partially and the bile-duct became patulous. It was thus evident that the progressive obstruction of the duct had been occasioned by the increasing growth of the neoplasm in the head of the pancreas, which pressed more and more upon the duct; that the period of slow, progressive improvement must have corresponded with a gradual evacuation of the soften ng centre of the mass through the ulcerated opening in the duodenal wall; that the slight diarrhœa with rapid abatement of jaundice and clearing of the urine corresponded with a more complete discharge of this character, allowing the growth to collapse partly, and thus render patulous the common bile-duct and enable the pent-up bile to rush into the bowel; and that, finally, after the evacuation, the perforation of the duodenal wall closed again, the cavity began to refill with puriform liquid, the bile-duct again became occluded, and by this time the vital powers and the crasis of the blood were so impaired that the patient speedily sank into a typhoid toxæmic state.

While, however, it is easy, after the post-mortem examination, to explain the various symptoms and their relations, it was far otherwise during life. The history of slight abdominal pain, with looseness of the bowels, seemed to point to catarrhal irritation of the mucous membrane, and when in January jaundice appeared and rapidly grew intense, it would not have been unnatural to conclude that the catarrhal inflammation had extended to the gall-duct, and caused such swelling as to occlude it. The irregular fever was consistent with such a supposition, although we are familiar with the fact that a febrile movement of hectic type, the so-called *hepatic fever*, may be associated with occlusion of the gall-duct from any cause, being probably dependent on putrefactive changes in the retained bile, and consequent septic irritation, as well as on aggravated surface irritation of the mucous membrane lining the distended ducts. While, however, it is true that in this way cancer of the head of the pancreas, pressing upon and occluding the common bile-duct, may indirectly give rise to fever, it was to be noted that in the present case the febrile movement existed before the occlusion of the duct became complete. The existence of suppurative softening in a cancerous mass is also apt to be attended with some irregular fever of hectic type, and I have on various occasions seen great embarrassment in differential diagnosis thus created by the coexistence of pyrexia with conditions which otherwise indicated cancerous disease, a morbid process well known to be ordinarily apyretic.

Occasionally, moreover, the existence of a cancerous growth in the abdomen, just as in the thorax, will be accompanied with subacute local inflammation of the peritoneum or pleura, and thus a moderate degree of fever may attend. Despite the various ways in which the pyrexia present in this case might have been explained upon the supposition that cancerous disease existed, it seemed more plausible to attribute the fever and the jaundice to catarrhal inflammation of the intestinal and hepatic mucous membrane; and this view was of course confirmed by the favorable course of the symptoms during the month of March and the early part of April. It is true that, despite this seeming improvement, there was no apparent gain in weight; but it is difficult to judge of small changes in weight while a patient is in bed; it was clear that no great emaciation occurred until the reappearance of intense jaundice; and, finally, it is usual to find considerable loss of flesh consequent on duodeno-hepatic catarrh. The character and locality of the pain afforded no help in diagnosis. It was not severe or constant, and was referred somewhat vaguely to the upper part of the abdomen. It can not be said that pancreatic disease is attended with any characteristic pain, but still our attention would be more drawn to that organ if pain were complained of as deep-seated, at the lower part of the epigastrium, and at a corresponding part of the back.

The detection of a tumor, central or slightly to the right of the median line, deep-seated, and less movable than a pyloric cancer, is possible in some cases of pancreatic disease, and is of high diagnostic value. But it is by no means in all cases that the tumor can thus be detected, even by the most careful palpation. A coincident enlargement of the liver, as in the present case; dilatation of the stomach; thick, fatty abdominal walls, such as existed here also to a very late period, may render its detection impossible. Even when a pancreatic tumor can be felt, it can rarely be accurately mapped out and localized; and if, as not rarely happens, there is frequent vomiting present in consequence of irritation of the stomach, or of its implication in the morbid process, the mass detected is apt to be regarded as of gastric origin.

The condition of the intestinal digestion and the fecal discharges should be studied with minute care in all cases of chronic abdominal disease, and light will occasionally be thrown from this source on the diagnosis of pancreatic disease. It is well known that fatty stools are present in some cases of obstruction of the pancreatic duct or of extensive degeneration of the glandular tissue. It is true that they are sometimes absent, or, at least, that there is no appearance of free fat in the stools; and, on the other hand, it is also true that in severe hepatic disease fatty stools may occur. Still their

presence in any case, especially if deep jaundice be not present at the same time, is certainly a valuable diagnostic symptom. The character of the stools in the case here recorded is instructive, as showing that a mere naked-eye examination is entirely insufficient; for while at no time was any free fatty matter observable, I am confident, from their slippery appearance, that microscopical examination (unfortunately neglected) would have revealed a great excess of unaltered and unabsorbed oil.

Space will not allow me to now report and comment on a case of pancreatic calculus, but it will be presented in a subsequent article. The practical points the cases here published serve to illustrate are, that cirrhosis of the pancreas, which is not a very rare disease, is usually associated with cirrhosis of the liver, and, possibly, also of the kidneys; that its symptoms are apt to be masked by those pertaining to the latter organs; that unusually marked intestinal dyspepsia, with possibly frequent vomiting, an unusually rapid rate of emaciation, and the occurrence of fatty stools, would be the features which would influence us in deciding that in a case of hepatic cirrhosis the pancreas was also involved. And, again, that in malignant disease of the pancreas the symptoms most likely to occur are, in addition to progressive debility and anæmia, pain, vomiting, tumor, jaundice, intestinal indigestion, with tendency to loose and fatty stools; but that in any given case we rarely find all of these symptoms present, and that even when they are, as in the case of Mr. L. here recorded, they require to be analyzed and studied with unusual care, or otherwise there is much risk of confounding the case with one of disease of the liver (cancer, chronic catarrhal inflammation, etc.), or of the liver and stomach combined. Finally, the peculiar train of symptoms induced in the case of Mr. L. by the alternate distention and collapse of the pancreatic tumor, although possibly unique, should be borne in mind in case of a similar group of phenomena occurring in the future.

(To be continued.)

HOSPITAL NOTES.

NEW YORK EYE AND EAR INFIRMARY.

(Service of RICHARD H. DERBY, M.D.)

CASE OF HODGKIN'S DISEASE, WITH TUMORS OF BOTH LACHRYMAL GLANDS.

PATIENT S. B., aged 51, of Nova Scotia; thirty-three years ago had left leg amputated below the knee for disease. Has worn artificial limb and enjoyed general good health. Two years ago first noticed swelling in left groin, a few months later same in right; eighteen months ago had slight ptosis; then complained of drowsiness; within twelve months noticed signs of present deformity about eyes; these ocular changes have not been accompanied with pain—once he had diplopia when he thought on the street a man was driving two horses when in fact there was but one. There has been slight gradual failure of sight up to the present time.

The woodcut shows as well as any single view can the striking features of this case.

Each eye is pushed slightly downward and inward, but there is no exophthalmos, and its movement upward and outward is only moderately limited. On the temporal side of each upper orbital margin, the eyelid is pushed forward by a growth, which feels to the touch tough and resistant, and appears to have its origin within the orbit between eyeball and upper orbital wall. The anterior portion of this is hard, rounded, nowhere sensitive to the touch, and both from position and shape is clearly the lachrymal gland. The tumor of the right side is somewhat larger than that of the other, and the entire tarso-orbital fascia seems to be pulled down by the lachrymal glands.

Patient can voluntarily, but slightly, raise the upper lid from the position depicted in the woodcut; when the lid is raised for him but slightly, the lower portion of the lachrymal gland, firm, tense, and well marked, can be seen on its inner surface.

In the refracting media of the eyes no change can be seen, and the same is true of the retina and optic nerve and the intra-ocular circulation, but the vision is reduced to $\frac{20}{Lxx}$ in the right eye and $\frac{20}{L}$ in the left.

This amblyopia is doubtless due to the pressure exerted upon the eye and its appendages by the dislocated and hypertrophied lachrymal glands.

Patient's color is bad—pale, ashy. On each side of the neck are large cervical glands; in both axillæ and in both groins are glandular enlargements; those of groin of the size of hens' eggs at least, and firm and resistant. So on each elbow above the olecranon are glandular hypertrophies, and the post-aural glands are very much enlarged.

MEDICAL PROGRESS.

MODIFICATION OF ESMARCH'S BLOODLESS METHOD.—DR. J. SZYDLOWSKI proposes the substitution of a simple elastic rubber tube for the band and tube in Esmarch's method. The tube is to be tied in the form

of a ring of a size suitable to the limb on which it is to be applied, passed over the hand or foot, and then gradually rolled up the limb, so compressing the vessels and preventing access of blood to the part, and driving out the blood already present; it is then to be allowed to remain and act as a tourniquet.—*Med. Chirurg. Centralblatt*, November 3, 1882.

THE PHYSICAL SIGNS OF PLEURITIC EFFUSION.—DR. R. DOUGLAS POWELL concludes a lecture on the physical conditions produced by pleuritic effusion as follows:

1. That until the pleura (previously under healthy conditions) is about two-thirds full of fluid, no positive pressure is exercised upon lungs or heart.

2. Up to this point, therefore, there is no tendency for the fluid to escape on puncturing the chest unless air be allowed to replace it. Its removal, otherwise, can only be effected by aspiratory or siphon power.

3. It is only in effusions beyond this point, therefore, that the diaphragm becomes depressed.

4. On the other hand, the heart is necessarily displaced from the very commencement of the effusion, and in proportion to its extent; cardiac displacement being thus a valuable index of effusion, but no measure of intra-thoracic pressure.—*Medical Times and Gazette*, November 18, 1882.

HEMORRHAGE INTO THE CAVITY OF THE ARACHNOID.—In a clinical lecture on this subject, MR. HENRY MORRIS, surgeon to the Middlesex Hospital, points out, as illustrated in a case:

1. That spontaneous effusions into the cavity of the arachnoid—*i. e.*, effusions of blood from disease or excitement—are very often not distinguishable from traumatic effusions. 2. That *post-mortem* examination does not always explain the cause or the source of the effusion, and that the state of the blood-clot is only a very rough test as to the age of the effusion. 3. Extravasation of blood between the dura mater and bone, as also extravasations beneath the visceral arachnoid, accompanied by brain bruising, are almost certainly traumatic, whether fracture coexists or not. Extravasations into the substance of the brain and into the ventricles are almost certainly spontaneous when no fracture and no brain bruising coexist, and are probably so even when fracture without bruising of the cerebral surface is found. 4. Spontaneous effusions may occur without there being any naked-eye evidence of disease of the cerebral or meningeal vessels. 5. Spontaneous effusions into the arachnoid cavity from disease or excitement have occurred as early as the twelfth year of life, and at all ages subsequent to puberty. Inter-arachnoid hemorrhage occurs at any age from violence. 6. In slight injuries to the head, such as small scalp wounds without fracture of the skull, or bruising of the surface of the brain, the surgeon should be extremely cautious in attributing inter-arachnoid extravasation to a blow, and more especially when, as in the case alluded to, the injured person is of intemperate habits.—*Lancet*, Nov. 11, 1882.

MENSTRUATION AND PSEUDO-MENSTRUATION IN DIFFERENT FORMS OF TYPHOID.—DR. E. BARRET, of St. Petersburgh, has studied, in a long series of cases, the influence of various forms of typhoid on the phenomena of menstruation, and formulates his conclusions as follows:

1. The influence of typhoid fever on menstruation will depend upon the time elapsing between the onset of the disease and the menstrual period.

2. When the menstrual period falls within the first five days of the disease, the appearance of the menstrual flow may be confidently expected: it occurred in 100 per cent. of his cases. If it is expected between the sixth and fourteenth days of the disease, it will occur in about 65 per cent. When expected after the fourteenth day, menstruation never appears.

3. The menstrual flow is suppressed more frequently in abdominal typhus than in other forms of the typhoid condition.

4. When present, the character of the menstrual flow is rarely altered in abdominal typhus: in spotted typhus (flecktyphus) it is usually diminished in quantity, and in relapsing typhus it is increased in amount.

5. The second and third menstrual periods rarely occur in any form of typhus.

6. Pseudo-menstruation, or a non-menstrual genital hemorrhage, rarely occurs; in spotted typhus it is a little more common, though it never appears before the age of puberty, or after the menopause.—*Deutsches Arch. f. klin. Med.*, November 8, 1882.

CROUP IN HOLLAND.—In the *Nederlandsch Tijdschrift voor Geneeskunde* for the present year, Dr. J. Korteweg contributes a long and laborious article on Croup in Holland. After a slight reference to the works of Bretonneau, Guersant, and Trousseau, he quotes the experience of various Dutch physicians in connection with the operation of tracheotomy, which, although very unsuccessful at first, is at present a measure of acknowledged utility in Holland, the fatal results in many cases being now attributed to the fact that the operation was not performed early enough. Unfortunately for the interests of medical science, Dr. Korteweg comprises under the head of "croup" both diphtheria and laryngitis, and, indeed, he appears to consider the former only an aggravated stage of the latter. Although he gives copious tables of death statistics from Amsterdam and many other Dutch localities, in which croup and diphtheria are classed in different columns, he adduces no evidence whatever to show why a distinction between them should be drawn. He insists very strongly on the influence of weather in the production of croup, and gives statistical tables showing the prevalence of the disease in the cold months of the year. It is evident, however, that the complaint he thus refers to is the ordinary laryngitis of children, which occurs in all countries and at all times, but more especially in cold weather. Diphtheria, on the other hand, is an exceptional disease, capricious in its visitations, occurring at intervals with great violence, attended with fearful mortality, often assuming an epidemic form, eminently infectious and contagious, but uninfluenced, as it would appear, by weather, or locality, or other ordinarily recognizable causes. From the want of this distinction the Dutch statistics regarding croup are of very little value, except as showing that during an epidemic of diphtheria the returns under the head of "croup" are very much augmented. The same want of distinction between common croup (*i. e.*, infantile laryngitis) and laryngeal diphtheria invalidates all the observations made as to the necessity of tracheotomy and the results of that operation in the maladies in question, for while in the former the operation is almost always successful and generally unnecessary, in the latter, though urgently required, it is too often attended with failure even in the most skilful hands.—*Med. Times and Gaz.*, Nov. 11, 1882.

TREATMENT OF HYDATID CYSTS OF THE LIVER.—M. TERRILLON writes that puncture and exhaustion of hydatid cysts of the liver is totally inefficacious in producing a cure, even when aspiration is not prevented by the clogging of the instrument with the debris of the hydatids. Electrolysis is also of very doubtful value, and free incision of the cysts even with antiseptic precautions should only be accepted

with hesitation. There only remain two methods: one, that of Recamier, of which the method of Trousseau is only a modification, consists in forming adhesions between the abdominal and cystic walls, and then subsequent evacuation of the contents of the cyst. The other is a modification, which M. Terrillon himself suggests, of the plan pursued by Boinet and Verneuil. This consists in the introduction of a trocar of one centimetre in diameter, directly into the cyst without waiting for any adhesions to form; an elastic sound is then passed into the cyst through the opening of the trocar, which is then withdrawn, leaving the sound in place. When the entrance of the fluid into the peritoneal cavity is feared, the trocar may be left in position for three or four days so as to allow adhesions to take place before introducing the sound. The author has treated four cases successfully in this manner.—*Journ. de Méd. de Paris*, November 18, 1882.

INTRAORBITAL ANEURISM.—MR. WALTER E. LLOYD reports the case of a traumatic intraorbital aneurism occurring in a pregnant woman, in whom the carotid artery was ligated one week after delivery. The wound healed well, but no change was produced in the aneurism; the eyeball was subsequently successfully extirpated.—*Lancet*, November 11, 1882.

HEMICHOREA AFTER LIGHTNING-STROKE.—GREIDENBERG records (*Vratch*, 1882, Nos. 10 and 11) an interesting case where a telegraph clerk—a woman, aged 38—was struck by lightning on her left hand when she was engaged in closing the circuit during a thunderstorm. Having recovered from the shock, the patient found a small burnt spot on her left little finger, but felt no pain. Within a fortnight after the accident, constant movements in her fingers developed, which, some months later, spread over the whole upper limb, and, still later, over the whole left half of the body. Dr. Greidenberg, who saw the patient eight months after the accident, recognized a typical case of hemichorea, the movements being most intense in the upper limb, which was considerably wasted, and showed considerable loss of muscular power. The treatment consisted of daily galvanization, one pole being applied first to the spine, afterwards to the median nerve; another to the left brachial plexus. After five sittings of ten minutes' duration, and with the current from twenty elements, there began a decided improvement, which proceeded without interruption. After fourteen sittings the movements continued in the fingers only, and very soon the patient recovered so far as to be able to work with both hands, to embroider, etc. About three months later she returned to her professional occupation. The only traces left of the hemichorea were extremely slight motions in the fingers, controlled by the patient's voluntary efforts; slight tremor of the limb when raised; and, lastly, the burnt spot on the little finger, which had not healed, though more than a year had elapsed. —*London Medical Record*, Nov. 15, 1882.

IODOFORM IN OCULAR DISEASES.—As a contribution to the subject of iodoformania, to which we have frequently alluded, we append the following conflicting experience, taken from the *Wiener Med. Woch.* (No. 41). Iodoform, as finely powdered as calomel, and also in the form of an ointment (one part of iodoform to ten of vaseline), has been used in Leber's clinic. The healthy conjunctiva tolerates both the ointment and powder. An eye that is slightly inflamed only endures the preparations in moderate quantity, whilst free application increases inflammation. Some eyes cannot stand iodoform at all, though this is rare. Iodoform is used with the greatest benefit in recent wounds of the globe or lids, whether accidental or from operation. In the various forms of ophthalmia it is valueless. In association with boracic lint dressing the preparation does good in cases of spreading ulceration of the cornea. Another benefit conferred by iodoform is relief from pain. Grossmann got good results from the use of iodoform only in profuse suppurations—in gonorrhœal ophthalmia and ophthalmia neonatorum (P. Smith confirms this observation). Dr. Lange, of St. Petersburg, on the contrary, treated six cases with no good, but rather harm. The chief danger resulted in cases of granular lids, which became much more exuberant, and, filling up the conjunctival sac, endangered the nutrition of the cornea. Lange cautions against its use in ophthalmia neonatorum, and Hirschberg teaches that there is no reason whatever to set aside the use of the trustworthy lapis divinus. Fischer believes that iodoform is tolerated well in most ocular diseases; it is very effectual in cases of scrofulous corneæ; it is an excellent antiseptic; it promotes granulation and rapid regeneration of corneal epithelium; it is of value in lachrymal abscess with discharge.—*Medical Times and Gazette*, November 18, 1882.

CYSTIC TUMOR DUE TO A HAIR WHICH HAD PENETRATED THE EYEBALL.—At the meeting of the Baltimore Academy of Medicine held Nov. 7, 1882, DR. J. J. CHISOLM reported a rare case of cystic tumor of the iris occurring in a child four years of age. Nine months since he was accidentally struck in the left eye by a piece of wire from a hoopskirt. It cut the cornea on the nasal side, leaving a cicatrix extending from the pupillary border to the inner corneal margin—not passing over into the sclera. The iris was adherent to the corneal wound, leaving the pupil free, however, and sight was not destroyed. Three months since, and six months from the receipt of the accident, a minute yellow spot was detected in the centre of the temporal side of the iris, midway between the pupillary border and the corneal margin. It caused no pain, and did not inject the eye. For three months its slow growth had been watched till it attained the size of a millet seed. It was considered a dangerous development, needing a special interference. The patient was brought to him for the removal of the growth. Under chloroform an iridectomy was successfully performed, removing the entire tumor with a margin of healthy iris. When the specimen was held up in the iridectomy forceps for inspection, much surprise was occasioned by finding a hair sticking directly out of the growth, and which was apparently the cause of the new development. This hair had no hair-bulb, and had not grown, therefore, in the eye, but had evidently been carried in from without at the time of the accident. It was a transplantation into the iris from which, by long-continued irritation, the growth had developed. In at least 30,000 eye patients which Dr. Chisolm has from time to time had under treatment, this was the first iritic tumor that he had met with in his practice. The child did well from the operation.—*Maryland Medical Journal*, December 1, 1882.

XANTHOMA TUBEROSUM.—At the meeting of the Pathological Society of London, held on November 7th, MR. MALCOLM MORRIS showed a living specimen of a very rare skin disease which he called xanthoma tuberosum. The patient was a married man, aged forty-eight, who was suffering from saccharine diabetes. There was no history of syphilis or rheumatism; no jaundice or evidence of disease of the liver. He complained of sleeping badly, and of dimness of sight with occasional mists before his eyes. There was distinct anæsthesia of the soles. Heart weak; reflexes normal. The eruption appeared suddenly, first on the outer side of the thigh, then spreading to the trunk, to between

the fingers, and on the mucous membrane of the mouth. It consisted of small, rounded, firm, pink tubercles, with depressd centres which had more of a fawn-color in the centre. Many of the papules had disappeared since the case first come under his care. With the patient's consent he removed one of the growths and examined it microscopically. This showed small nodules in the corium, with a delicate fibrous intercellular matrix; towards the centre the fibrous tissue became more compact and firm. The superficial epithelial cells were normal. There was no connection with any glandular structures, and the older papules contained no bloodvessels. In one place he found a collection of round cells about a vessel, and he suggested whether this might not be the real origin of the growths—the tissue ultimately contracting and so causing degeneration of the cells. This case differed from those of xanthelasma in many respects, chiefly in its association with diabetes and not with jaundice; the sudden onset of the rash, and its rather rapid disappearance, and in the fact that the eyelids were not implicated. But on the other hand it closely resembled two cases, one of which had been recorded by Drs. Gull and Addison, the other by Dr. Bristowe. The three cases were all in men; they all had diabetes, they all affected the same locality and avoided the same parts; in all the rash appeared suddenly, and gradually, but rather rapidly disappeared. To these exceedingly rare cases the name of xanthoma tuberosum had been applied.—*Lancet*, November 11, 1882.

PERFORATION OF ARTERIES IN PURULENT COLLECTIONS.—At the meeting of the Société de Chirurgie, of Paris, held November 8, 1882, M. MONOD made a report on a communication of M. Bouilly in reference to the perforation of arteries in purulent collections. A man suffering from osteo-myelitis of the femur had a collection of pus in the lower part of the thigh; its incision showed that the popliteal vessels were laid bare in the cavity of the abscess. Carbolized dressings were applied; two weeks later hemorrhage occurred, which was controlled by pressure and subsequent ligation of the femoral artery. Two days later the patient was found dead in his bed. The autopsy revealed a perforation in the popliteal artery, evidently caused by ulceration from the generally reduced condition of the system.—*Gaz. Hebdomadaire*, Nov. 7, 1882.

A NEW DISEASE OF THE LYMPHATICS.—At the meeting of the Pathological Society of London held Nov. 21st, DR. GEORGE HOGGAN exhibited a number of microscopical specimens of a condition of the lymphatics of the skin, which he had not seen described, and which he believed was related to elephantiasis and angioma; it most nearly resembled a disease described by Kaposi as *lymphangioma tuberosum multiplex;* but he was doubtful whether that was a disease of the lymphatic system at all. The specimens were made from a portion of skin excised from a young boy, who had been a patient of Dr. T. Colcott Fox; they showed a very great increase in the number of the lymphatics, without any other abnormality. To the naked eye, the skin showed a number of small vesicular bodies, about the size of a split pea, which could be distended by passing the hand over the leg against the current of the lymph. The boy had suffered from severe attacks of pain in the legs; and, after each attack, the skin of the leg became more and more thickened and enlarged. The whole of the dermic tissue was penetrated in every direction by the enlarged lymphatics. Dr. Hoggan thought the case probably showed an early stage of a condition which would ultimately result in elephantiasis.—Dr. Pye-Smith inquired whether the condition was congenital.—Dr. Thin complimented Dr. Hoggan on the excellence of his preparations. He was not prepared to accept the suggestion that this case represented an early stage of elephantiasis, which he believed was due to organization of imperfect fibrous tissue about the lymphatic vessels, and not, as here, to an increase in the number of the vessels.—Dr. Hoggan could not say whether the condition was congenital or not. In the main, he agreed with what Dr. Thin had said.—*British Medical Journal*, November 25, 1882.

LIGATURE OF THE COMMON CAROTID.—At the meeting of the Society of Physicians in Vienna on October 20, Prof. Weinlicher showed a man, aged fifty years, on whom he had successfully tied the left common carotid artery for bleeding into an abscess in the left tonsil. The abscess was the result of repeated injections of an ethereal solution of iodoform into a spindle-celled sarcoma, which had grown in the tonsil and neighboring lymphatic glands. Sixteen injections had been made into the new growth from the mouth and fourteen from the neck. The solution used was of the strength of one part of iodoform to ten of ether; of this two to three minims were employed each time. This method of treating the sarcoma was practised because the patient had determined that no operation for extirpation should be performed. This case is of interest when taken side by side with a somewhat similar one reported at a recent meeting of the Clinical Society of London, in which Mr. Pepper secured the common carotid for hemorrhage into an abscess in the throat, the result of scarlatina. The Vienna patient also recovered completely from the operation. It is not stated whether antiseptic dressings were employed. It would appear that the use of antiseptics is a point of great importance in bringing about a successful result, the liability to secondary wound diseases, especially profuse suppuration, and to secondary hemorrhage being greatly lessened.—*Medical Times and Gazette*, November 18, 1882.

A NEW STAINING FLUID FOR SECTIONS OF THE CENTRAL NERVOUS SYSTEM.—PROF. WEIGERT, of Leipzig, proposes the following plan of staining sections of the central nervous system after hardening in bichromate of potassium: The sections are first stained for several hours in a concentrated watery solution of acid fuchsin, then washed in water, and then placed for a few seconds in a solution of alcohol rendered alkaline by adding to 100 c.c. of absolute alcohol 10 c.c. of a one per cent alcoholic solution of caustic potash. As soon as the first signs of the gray nerve-tissue becomes evident the sections must be removed from this fluid, washed in water, and then placed in absolute alcohol saturated with chloride of sodium; they are then cleared with oil of cloves, and mounted in balsam. By this method of staining the medullated nerve-fibres of the medulla, pons, and cord stand out as brilliant red lines or points, from a partial staining of the medullary sheath; the ganglion cells and connective tissue stain blue, the shade being deepened by immersion in dilute hydrochloric acid, one to five, and then into water, before placing in alcohol.—*Centralb. f. d. Med. Wissen.*, October 21 and 28, 1882.

WARM WATER IN JAUNDICE.—MOSLER has employed with success the injection of a large quantity of warm water into the large intestine in catarrhal jaundice. The experiments of Röhrig have shown that such injections have the effect of increasing, for a considerable time, the secretion of bile; and Peiper showed that the bile was thus rendered more diffluent. While the amount of water in the bile was increased, that of solid matter was lessened. About six hours after the injection, the solids rise above the normal, and the water falls below it.—*Lancet*, November 25, 1882.

THE MEDICAL NEWS.

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OF MEDICAL SCIENCE.

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SHORT-WEIGHT QUININE PILLS.

IT is scarcely necessary to call attention to the results, as presented in this number of THE NEWS, of the analyses made of the quinine pills manufactured by the leading pharmaceutists of the country. Nothing is more important to the physician and his patients than accuracy in the preparation of the medicines which he prescribes, and so large a portion of the remedies most in vogue are now put up on a large scale in the form of granules and pills, and furnished in a shape ready for dispensing, that it becomes a matter of the utmost moment to the public that the profession shall be justified in placing confidence in the purity and accuracy of the remedies on which the welfare of a confiding community depends. In pursuance of its mission to neglect nothing which bears upon the interest of the profession, THE MEDICAL NEWS has undertaken to examine the important article of quinine pills, as furnished by a number of the leading houses of the country. Every precaution has been observed to preserve the strictest impartiality and to obtain the most perfect accuracy as to results. The analyst is one of our most distinguished experts, and the arrangements were such that he could have no knowledge of the source from which the several specimens were obtained. We believe, therefore, that the results which we publish to-day may be implicitly relied upon.

Those results are by no means pleasant to contemplate. While it is a satisfaction to find that all the several samples of quinine pills were free from adulteration, that satisfaction is greatly diminished by the fact that all the samples but two were found to be sensibly deficient in quantity, the deficiency ranging from five to about twenty per cent. If this deficiency is constant, as our examination would seem to render probable, we have here a wrong committed upon the public, against which it is the duty of the profession, as the guardians of the public health, to record its emphatic protest.

It is to be hoped that this carelessness—to use no stronger term of reprobation—does not obtain throughout the whole of the extensive list of drugs which are now thrown upon the market so plentifully in a finished state. That giving short weight is not necessary to the successful conduct of pharmaceutical manufacturing is evident from our tabulated results, which show that the houses giving the best measure are not among the least successful in the competition of trade.

SHOULD NOT THE OFFICE OF CORONER BE ABOLISHED?

IN England the office of coroner has existed for a thousand years. In France, Germany, and indeed generally on the continent of Europe, there never has been any coroner. The last statement disposes practically of at least one doubt that instantly arises in the conservative mind on asking our question. Because the coroner is an outgrowth of a mouldy past is no reason that he should flourish to-day. If he does not fulfil his purpose, he should be abolished. Let us then look squarely at the facts.

And, for example, what is the condition of the law in this State? Curiously enough in Pennsylvania and in Louisiana, there never has been any formal repeal of the old English law on this subject, so that it is binding upon us, except where it has been altered by specific statutes. We have carefully looked into the laws relating to the coroner in this State, as recorded in Dr. J. G. Lee's *Handbook for Coroners*, and we find plenty of law as to the election of the coroner, his bond, commission, dereliction, or neglect of duty, etc., but not a word as to what his duty is, except as to the coroner of the City of Philadelphia, which law we quoted in our issue for November 25th. How he is to discover his duties from existing legal provisions we can scarcely see. In Luzerne county he is directed *not* to hold an inquest except in cases of violence or suspicion, and in Philadelphia not to hold an inquest on prisoners except in certain cases. What his duties *are* he must learn from custom, common report, and old English law. His jury is fixed at six; but no law requires him to take charge of money or effects found on the persons of those on whom inquests are held. Nor do we believe that even in Philadelphia can he legally hold an inquest on the body of any infant the victim of an abortion, provided the infant was still-born. The law says he shall hold an inquest "on the body of any deceased person, etc."

Now in the *Boston Medical and Surgical Journal*, Vol. CIII. page 200, Dr. Holt examines most carefully the meaning of the words "dead body of a person," and reaches the conclusion that a fœtus only becomes a "person" after birth, and that birth is the extrusion of the entire body from the mother. If, then, a child dies, even after having breathed, but before complete extrusion from the mother, it never has become a "person," and so cannot be the subject of an inquest. How serious a defect this is in the law, the frequent practice of abortion shows only too well.

Provision was made in 1848, for *post-mortem* examinations in Berks and Luzerne counties, and down to 1867 the provision was from time to time extended to only five other counties in the State, while meantime in 1856, it had been repealed as to Berks county itself. In six counties from the year 1852 to 1871, the coroner was authorized to appoint any number of deputies he might see proper. In Philadelphia, one of the six, he has this right, and he might if he choose appoint several deputies at a salary of $2,500 each.

The salaries both of the coroner and of the deputies are paid out of the fees, and if the fees do not amount to the salary it is curtailed accordingly. What a sore temptation this is to multiply inquests unnecessarily! And we showed in our issue before alluded to that it was a temptation frequently yielded to. Many such inquests have been held, and they not only *make* the fees of the coroner amount to the sum fixed by law, but they put the county to unnecessary expense for jury fees, witness fees, hauling of bodies, *post-mortems*, etc. Thus the law is shown not only to be uncertain and loose, but inadequate in its provisions, variable in different counties in the State, and of such a character as to be a direct invitation and inducement to wrong.

Next, as to the qualifications of the coroner himself, our present system is an absurd relic of the past. At one time he was not only coroner, but a conservator of the peace, a prosecutor of crimes, a sheriff's lieutenant, an inspector of weights and measures, and a revenue officer of the crown. Now he is only a coroner, and in certain cases interchanges duties with the sheriff, either officer in case of incapacity or death of the other acting as his substitute. But as coroner alone he has double and really incompatible functions. He has to be both a skilful physician and an expert lawyer, familiar with the anatomical and pathological appearances indicating death in all its multifarious phases—by drowning, by abortion, by compression of the brain, by disease of the heart, by sunstroke, by poisons of all sorts, by alcohol, by consumption, by gunshot wounds, by compound fractures, by blood-poisoning, by asphyxia, by accidents of all kinds, and we must even add an "etc." And with all this he must know the law from beginning to end, the old English common law as a guide to what his legal duties are, the later statute law of both the mother country and of this State to know how his duties may have been limited or enlarged, the laws pertaining to murder, manslaughter, self-defence, responsibility for accident, commitment and detention of criminals, besides other endless details of which we ourselves are ignorant.

We doctors can readily imagine what a mess a lawyer would make of an autopsy, or of a medical diagnosis, and a lawyer can readily see how a doctor would come to grief in the management of a case at law. We can readily see then that the poor coroner who must be both, is almost certain of impalement on either one horn of the dilemma, or often on both. If a doctor, the legal horn is pretty sure to gore him; if a lawyer, the medical horn wounds; if neither doctor nor lawyer, ten to one he will be tossed by both. Medical knowledge is more requisite than legal, and hence, as Mr. Wakley so pertinaciously and so successfully urged in the *Lancet* a half century ago, the coroner under present regulations should be a doctor rather than anything else, but even this is only the least of several evils, as we have shown. Even when the coroner has been a physician, the deputy, who generally does more than half the work, has never been a medical man.

Of the practical workings of the present system and of the remedy, we shall have something to say hereafter.

"PNEUMO-URIA."

IN another column we give a very interesting paper and discussion on Pneumo-uria, that is, a discharge of gas along with the urine. DR. KEYES has rendered an important service in recording two cases of such rarity that neither he nor Dr. Van Buren has seen any other within the last fourteen years, and of which he has only found two recorded cases. In the discussion four or five other cases are added to the list, but it is to be especially noted that these were all from decomposition of the blood-clots of hæmaturia. Dr. Keyes' cases are of a different class. They are not from vesico-intestinal fistulæ; they are not from decomposition of the urine, for they coexist usually with clear, sweet, normal urine. Sometimes the urine may be putrid when sulphuretted hydrogen is found in addition to the ordinary gas, but a little of such ill-smelling gas goes a long way. Indeed, we suspect that much of it would be dangerous to life.

In women, Matthews Duncan speaks of such an escape of air from the bladder as nothing unusual,

but attributes it, as does Goschler, to its previous admission by the catheter. Marie (*L'Union Médicale*, 1865, p. 55) also relates a very interesting (and amusingly told) case in which prolonged "vesical sonorities" accompanied dysuria. On passing a catheter, he was so fortunate as to open freely an old abscess which had been the source of the gas. The operation was followed by complete and speedy recovery.

We see frequently that liquids in other closed cavities undergo decomposition with the production of gas, as in abscess-cavities, in the pleura, and even in the arachnoid. Morgagni also mentions one case in which the gall-bladder was empty of bile, but distended with air. But in these cases, as a rule, the gas is offensive, as is natural from its origin by decomposition. The source of an inodorous gas found in the bladder is very doubtful. In cases in which the catheter is in constant and frequent use, it is most likely from without. Air so introduced may remain for a considerable time without absorption, and from time to time a part of it may be expelled with the urine. Whether air can also be secreted by the bladder is a question as yet unsolved. Certainly, Mallez is wrong in saying its escape is "not uncommon." We hope that the publication of this paper will call attention to the subject and elicit other cases from neglected records.

THE INFLUENCE OF THE SPLEEN ON DIGESTION.

TWENTY years ago, Schiff claimed that extirpation of the spleen in dogs entirely destroyed the normal function of the pancreatic juice of digesting albuminoids; but neither his theories nor the data on which they were based have been accepted as conclusive or reliable. The discovery by Heidenhain in the granular contents of the pancreatic cells of *zymogen*, as the substance which is converted into trypsine, the proteolytic ferment of the pancreatic juice, seemed to further justify the denial of any exterior influence to the digestion of proteids by the pancreas.

HERZEN, in a recent communication to the *Revue Scientifique* for November 25, has again opened the question and reports some experiments which seem to support the views first advanced by Schiff, and which he also advocated in a paper published in 1877. He claims that while zymogen is being continually formed, even in animals deprived of the spleen, it is never (though this statement has been denied by Mosler) converted into trypsine after extirpation of the spleen, and its conversion into trypsine is proportional to the degree of splenic dilatation. It is accordingly claimed that the spleen in the dilatation to which it is subject during gastric digestion, elaborates a ferment which is conveyed to the pancreas and converts the zymogen into trypsine, and that the presence of this ferment, at least in the living pancreas, is a *sine quâ non* for the transformation of zymogen into trypsine, though out of the body such metamorphosis may occur from mere oxidation.

To put this view to the test of experiment, Herzen killed two dogs, one in full digestion, the other after having fasted twenty hours; an infusion in a five per cent. solution of boric acid was then made of the spleen of the digesting and of the pancreas of the fasting dog; either solution alone was incapable of digesting albumen, but a mixture of the two possessed active digestive powers, while a mixture of splenic and pancreatic infusions of the fasting dog was entirely inactive. Although these experiments are not reported in detail, they certainly seem to indicate some connection between the spleen and the pancreatic digestion of albuminoids. We must confess that—although we know of no experimental support for the statement—the known readiness with which zymogen is converted into trypsine in the presence of a dilute acid, suggests the possibility of its conversion during life into trypsine in the presence of an acid formed in the pancreatic cell under circumstances similar to what occurs in the muscle cell during its functional activity.

THE NEW YORK COUNTY SOCIETIES AND THE NEW CODE.

THE very proper action of the thirty-four New York county societies which have already instructed their delegates to the next State Medical Society meeting, to vote for the repeal of the New Code, seems to foreshadow its fate with almost certainty. This appears, however, to have worked the *Medical Record*—the apostle of the New Code—into a rather unamiable mood, and in apparent despair it calls the delegates ugly names, and, likening them to dogs, says that they go to the "annual gathering with collars about their neck, engraven with their master's stamp."

Delegates are appointed to represent constituents, and when constituents have decided views on a subject they are quite right in making them known. But the advocates of the new Code do not want to learn professional sentiment. Had they, they would have last year adopted Dr. Squibb's honorable motion to postpone action on the Code until the next meeting, so that it could be ascertained. Then *they* had the meeting "fixed," and they would not postpone action for even a day, but they rushed through their revolutionary Code on the first day of the meeting, and on the day on which it for the first time saw light.

It now remains to be seen if, after a thorough discussion of the subject, the advocates of the new

Code will gracefully yield to the declared will of a very large majority of the profession of their own State, and in deference to the sentiment of the whole profession of the rest of the United States, as formally expressed with absolute unanimity by the American Medical Association, and by the State medical societies from Maine to California.

The large delegation from the New York County Medical Society has been carefully selected by the originators and supporters of the new Code, and they are pledged to attend the annual meeting of the State Society, and to vote to sustain the new Code. At a slimly attended meeting like last year's, it would almost be within their power alone to prevent its repeal. It is therefore extremely important that all the county societies should be represented by full delegations, and that the permanent members should, as far as possible, be present at the ensuing meeting in February.

Whatever the final result may be, we hope the yeas and nays will be demanded, so that the profession of the State and of the country at large may know who of their honorable calling are so forgetful of the standard of professional morals as to be willing to consult with charlatans, and, by thus affiliating with them, to commend them to the respect and confidence of the community.

ESERINE AND ATROPINE.

RECENT observations in ophthalmic practice have confirmed, in a most notable and exact manner, the results of the experimental study of eserine and atropine. The antagonism of actions existing between these agents, is one of the most striking exhibitions of this principle in the whole series of physiological antagonisms. There is a notion abroad in the medical profession, that the demonstration of an antagonism in animals, cannot be applied to the same conditions in man; much less, can the knowledge thus obtained be utilized in the treatment of man's diseases. Besides the large amount of experimental and clinical evidence, to which we might call the attention of our readers, there were published in the issue of the *Lancet* for November 11, two cases of eye disease which perfectly illustrate the success with which the physiological study of eserine and atropine has been applied to therapeutical problems. In the first case, the condition of the eye was that of intermittent glaucoma, with increased intra-ocular pressure; in the second, there was recurrent iritis, with increased intra-ocular pressure. The myositic, eserine, a pupil contractor, relieved the former; the mydriatic, atropine, a pupil dilator, was successful in the latter. Notwithstanding the increased tension of the eyeball, in both cases, remedies acting oppositely succeeded; and not by haphazard empiricism, but by the accurate adaptation of scientific principles.

THE ONTARIO HEALTH BULLETIN.

THE weekly health bulletin issued by the Provincial Board of Health of Ontario is a sheet about the size of the daily weather chart of our signal office, and consists of an outline map of the province, which, for the purposes of the statistician, has been divided into ten districts. The bright colors with which these districts are overlaid are suggestive of an attempt to indicate the prevalence of disease by their means, but on closer examination it is found that they only serve the purpose of showing the divisions. The six diseases which have been most prevalent in each district during the week are printed in the order of prevalence on or near each division, while a graphic delineation of the comparative area of prevalence of each of the diseases which have figured as one of the first six in one or more of the districts is given in one corner, and a similar delineation, with an attached scale, enables the degree of prevalence of each disease to be compared. But the reader wants naturally to know on what data the official announcements are made. As a health bulletin, we are inclined to prefer Dr. Baker's statements of prevalence in Michigan, as observed by so many medical men in different parts of the State.

THE NEW PENAL CODE OF NEW YORK STATE.

ON December 1st, the New Penal Code of New York State went into operation. As two or three of its provisions affect the medical profession directly or indirectly, we call attention to them.

It behooves physicians in that State to be watchful of their habits and prescriptions, for it is provided that any physician who, while intoxicated or by mistake, gives any drug to his patient in such dose as to kill, is guilty of murder in the second degree.

"A person," says section 305, "has the right to direct the manner in which his body shall be disposed of after his death, and direct the manner in which any part of his body which becomes separated therefrom during his life-time shall be disposed of." Under such a law Dr. Weir Mitchell's soldier-hero, George Dedlow, could have claimed his legs from the Army Medical Museum.

It is made a crime to attach a dead body for debt or to obstruct or detain a funeral. Many other provisions seem to us to be excedingly wise. Duelling, cruelty to children and to animals, overloading of vessels with passengers, carelessness as to steam boilers, are all made punishable; the care and preservation of life, generally, is provided for most commendably.

We observe also that the law as to the responsibility of the insane, idiotic, and imbecile, requires that it must be proved that he was laboring under such a defect of reason as either not to know the nature and quality of the act he was doing, or not to know that the act was wrong. A morbid propensity to commit prohibited acts existing in the mind of a person who is not shown to have been incapable of knowing the wrongfulness of such acts, forms no defence to the prosecution therefor. We wish the "New York Code" in medicine were equally as wise.

IN the *Philadelphia Inquirer* of December 5 is a statement the like of which we never remember to have seen before. Twenty cases had been reported to the Coroner on the preceding day, of which *eight were referred back to the physicians as unsuitable cases for inquests*. We hardly expected that our editorial defining the relations of physicians and the Coroner, published a few days before, would bear such speedy and such abundant fruit. Moreover, we congratulate the County and the Coroner on the resulting saving, which for that day alone would be not far from one hundred dollars—a very fair gain for one day.

SPECIAL ARTICLE.

THE MEDICAL NEWS COMMISSION

ON THE

COMPOSITION OF PHARMACEUTICAL PREPARATIONS.

QUININE PILLS.

IT is of the highest importance to the profession and to the public to know if the pharmaceutical preparations which are prescribed and purchased are what they are represented to be both in quality and quantity; for it is very evident to the most casual observer that neither temptation nor opportunity is lacking to those who may be willing to adulterate their preparations and dispense them in short measure.

Of all the drugs in the Pharmacopœia, quinine is probably one of the most largely used and at the same time one of the most expensive. As there is an immense demand for it everywhere, and as there are considerable difficulties in the way of both physicians and patients ascertaining the precise amount of quinine in a pill, owing to the presence of excipients and coatings, and equally great difficulties in the way of detecting adulterations, it is readily seen that the manufacture of quinine pills offers a most attractive field to any pharmaceutist who is disposed to take advantage of his opportunities.

The leading manufacturing pharmaceutists have for some years found it profitable to make for the trade, on a very large scale, the pills which are in common use, and the retail apothecaries, as a rule, keep these pills in stock and dispense them as a matter of convenience, and because they can be sold at a lower price than those which are made on a small scale by hand.

With the view of ascertaining how well the public is served by the leading manufacturing pharmaceutists THE MEDICAL NEWS instituted an investigation as to the purity and weight of the pills made by them, and two-grain sulphate of quinine pills were, for obvious reasons, selected for the test.

In the middle of October, THE MEDICAL NEWS purchased in unbroken packages from seven of the largest manufacturers, or from their agents, bottles, each containing by actual count, 100 two-grain sulphate of quinine pills. The pills were then put in new bottles, numbered respectively 1, 2, 3, 4, 5, 6, and 7, and placed in the hands of an expert analytical chemist, to ascertain the amount of the alkaloid contained in each pill and its purity, without his having any knowledge, indication, or clue as to who were the manufacturers of the different specimens. To eliminate all possible errors, a second series of analyses, and, where these showed any discrepancies, a third series were made under the above conditions, the numbers, however, being varied in each series, for evident reasons.

METHOD OF ANALYSIS.

The analysis was conducted by the following method: 20 pills were dissolved in distilled water, by the aid of a little dilute sulphuric acid, and, in the case of the sugar-coated pills, the solution filtered, in order to remove starchy matter, etc., and the filter thoroughly washed with water. The resulting solution was then super-saturated with ammonia water, and the precipitated alkaloid dissolved by agitation with successive portions of pure ether until, after the separation of the ether, the remaining aqueous liquid no longer gave any reaction for an alkaloid with potassio-mercuric iodide; thus affording evidence of its complete abstraction. The ethereal solution was first allowed to evaporate spontaneously in a weighed glass capsule, then dried at 100° C. (212° Fah.), and finally dried at 125° C. (257° Fah.), until the weight remained constant.

Seven specimens of pills were thus examined, with the following results.

SERIES I.

No. I. (compressed). Two-grain bisulphate of quinine pills. Average weight of each pill, 2.07 grains. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill 1.24 grains; corresponding to crystallized bisulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *2.10 grains*.[1]

No. II. (gelatine-coated). Two-grain sulphate of quinine pills. Average weight of each pill, including coating, 3.48 grains. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.31 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.76 grain*.

[1] The small excess of quinine obtained in this instance is doubtless due to the employment of a slightly effloresced salt.

No. III. (sugar-coated). Two-grain sulphate of quinine pills. Average weight of each pill, including coating, 5.14 grains. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.48 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.99 grain.*

No. IV. (sugar-coated). Two-grain sulphate of quinine pills. Average weight of each pill, including coating, 4.69 grains. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.199 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.61 grain.*

No. V. (sugar-coated). Two-grain sulphate of quinine pills. Average weight of each pill, including coating, 5.16 grains. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.323 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.78 grain.*

No. VI. (sugar-coated). Two-grain sulphate of quinine pills. Average weight of each pill, including coating, 4.34 grains. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.269 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.71 grain.*

No. VII. (gelatine-coated). Two-grain sulphate of quinine pills. Average weight of each pill, including coating, 3.05 grains. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.42 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.91 grain.*

All the specimens were found to be free from the associate alkaloids of quinine, viz., quinidine, cinchonine, and cinchonidine, and to respond to the official tests of sulphate of quinine for identity and purity.

Owing to the deficiency in weight of five of the above examined specimens, a second analysis was made of newly purchased samples, which were similarly numbered 1, 2, 3, 4, and 5; the numbers, however, not corresponding to those attached to the first set of specimens submitted. The analysis was performed in the manner above described, and afforded the following results:

SERIES II.

No. I. (sugar-coated). Two-grain sulphate of quinine pills. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.39 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.87 grain.*

No. II. (sugar-coated). Two-grain sulphate of quinine pills. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.26 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.70 grain.*

No. III. (gelatine-coated). Two-grain sulphate of quinine pills. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.424 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.91 grain.*

No. IV. (sugar-coated). Two-grain sulphate of quinine pills. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.318 grain; corresponding to crystallized sulphate of quinine $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.77 grain.*

No. V. (gelatine-coated). Two-grain sulphate of quinine pills. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.308 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.76 grain.*

SERIES III.

No. I. (sugar-coated). Two-grain sulphate of quinine pills. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.26 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.70 grain.*

No. II. (sugar-coated). Two-grain sulphate of quinine pills. Average amount of anhydrous quinine, $C_{20}H_{24}N_2O_2$, obtained from each pill, 1.42 grain; corresponding to crystallized sulphate of quinine, $(C_{20}H_{24}N_2O_2)_2H_2SO_4+7H_2O$, *1.92 grain.*

TABULAR STATEMENT OF THE RESULTS.

For convenience of comparison the results are arranged in tabular form.

Manufacturer.	Series I.		Series II.		Series III.	
	No.	Grs.	No.	Grs.	No.	Grs.
John Wyeth & Bro., Philadelphia.	I.	2.10				
McKesson & Robbins, New York.	II.	1.76	V.	1.76		
Bullock & Crenshaw, Philadelphia.	III.	1.99				
Wm. R. Warner & Co., Philadelphia.	IV.	1.61	II.	1.70	I.	1.70
Parke, Davis & Co., Detroit.	V.	1.78	IV.	1.77		
Keasbey & Mattison, Philadelphia.	VI.	1.71	I.	1.87	II.	1.92
W. H. Schieffelin & Co., New York.	VII.	1.91	III.	1.91		

RELATION OF THE PRICE OF QUININE PILLS TO THE AMOUNT OF QUININE THEY CONTAIN.

As a matter of collateral interest, it is worth while to consider the varying price at which the two-grain pills are furnished, and the relation of the price to the amount of quinine they contain. This is shown in the accompanying table, in which are given the current retail prices which were paid by THE MEDICAL NEWS for the specimens purchased for the first series of analyses.

Manufacturer	Quinine per pill.	Price per 100.
John Wyeth & Bro., . .	2.10 grains.	$ 2.50
Bullock & Crenshaw, . .	1.99 "	2.30
W. H. Schieffelin & Co., .	1.91 "	2.75
Parke, Davis & Co., . .	1.78 "	1.70
McKesson & Robbins, .	1.76 "	1.76
Keasbey & Mattison, . .	1.71 "	1.90
Wm. R. Warner & Co., .	1.61 "	2.75

The range we found to be from $1.70 (the lowest) to $2.75 (the highest) per hundred—a variation of 60 per cent.; and there is no constant relation between the price of the pills and the quantity of quinine they contain.

THE GENERAL RESULTS OF THIS INVESTIGATION.

From the foregoing facts we learn:

I. That the quinine pills of five out of seven of our leading manufacturers have not in them the amount of sulphate of quinine which they are represented to contain.

II. That there is a great variation in the price at which the pills can be purchased.

III. That the price bears no relation to the amount of quinine really contained in the pills.

REVIEWS.

ON SLIGHT AILMENTS: THEIR NATURE AND TREATMENT. By LIONEL S. BEALE, M.B., F.R.S. Second edition. 8vo. pp. 283. Philadelphia: P. Blakiston, Son & Co., 1882.

"What is here?
Gold! yellow, glittering, precious gold!"

COMMUNISM has sought to diffuse equally the material riches of the globe, but the sequel has always been a revolution. Apostles of mental communism reproduce the story so well told in Addison's *Spectator*, in which an equal distribution of the hardships and misfortunes among mankind resulted in a chaos of calamity, until Jove at last returned to each his share again.

The gold of the world of thought cannot be allotted by the ton to the multitude, and books like this we fear attempt an impossibility. The instincts of the born physician direct him, and he is an empiricist only in name. Let him impart his methods and his valued recipes sink to the level of the cook book, which the born cook puts into the hands of the amateur while she still uses her pinch of salt and lump of butter as large as an egg.

The gold of good ideas is in this book, but let us rather explain in such works as these the principles of morbid pathological processes, be they slight or gross. Let us seek to meet them by the physiological action of drugs, as far as possible, and when this fails, let us stimulate original thought in this direction, letting necessity suborn the empiric's art, and constituting her the hand-maid of science. For necessity is the mother of prudent invention. We are led to comment thus, because nothing essentially new appears in this second edition. Empiricism, or experience with ignorance, is extolled. Old-fashioned purgatives, emetics, acids, or antacids find favor. Dr. Beale is sanguine about the virtues of mercurials in the cure of headache (which he considers to be developed by biliousness), and in many other conditions for which our grandmothers were wont to advise blue pill.

The table of contents includes peculiarities of the tongue in slight ailments; offensive breath; nausea; indigestion, its nature and treatment; constipation, and its treatment; diarrhœa; vertigo; biliousness and sick headache; neuralgia and rheumatism; the feverish inflammatory state; the actual changes in fever and inflammation and common forms of slight inflammation, including sore-throat, conjunctivitis, etc. etc. The remedies suggested for these derangements, without being new, are correct, and those physicians who enter practice without hospital training, will doubtless find their time profitably spent in its perusal.

SOCIETY PROCEEDINGS.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, December 6, 1882.

THE PRESIDENT, W. S. W. RUSCHENBERGER, M.D., IN THE CHAIR.

DR. J. EWING MEARS read

A RÉSUMÉ OF TWENTY-FIVE CASES OF ABDOMINAL SECTION.

With a view of placing on record the results in a number of cases of abdominal section, and with the hope of contributing to the information possessed already with regard to these operations, I beg to submit the following *résumé* of the cases which have come under my care.

I have endeavored to present the points, which were regarded of interest, in a concise manner, for this purpose grouping them under different headings.

Of the twenty-five cases of abdominal section, twenty-two were performed for the removal of tumors of the ovary; one was made in a case of encysted dropsy of the peritoneum; one in a case of abdominal dropsy, in which the diagnosis was obscure, and an operation of exploration was made; and one for removal of the child in extra-uterine fœtation.

As the case of encysted dropsy has been reported to the College (See *Transactions*, 3d Series, Vol. I.), and as I propose, at a future time, to report the one of extra-uterine pregnancy, I shall present on this occasion a *résumé* of the ovarian cases.

Age of Patients.—In the twenty-two cases the age varied from the youngest, sixteen, to the oldest, sixty-five years.

Nationality.—Sixteen patients were natives of the United States, and six of Ireland.

Social Condition.—Five were single, one was a widow, and sixteen were married.

Duration of Growth.—The duration of growth varied from three months to seven years, counting from the time at which the tumor was recognized first by the patient.

Aspiration, or Previous Tapping.—Aspiration, for the purpose of obtaining a specimen of fluid for examination, was performed in eight cases; tapping, to relieve abdominal distention, in four. In one case, in which the cyst was very fully distended by fluid, and the abdominal wall was very tense, leakage followed aspiration, and persisted for some hours, despite the efforts made to control it by pressure. In none of the cases, in which aspiration or tapping was performed, did any serious results occur, nor were there any evidences in the operations, which followed, of complications due to the previous aspiration, or tapping. In all cases, proper precautions were taken, the patient being required to rest in bed from three to four days subsequent to the operation.

Condition of the Patient at the Time of Operation.—With the exception of two, who were the subjects of malignant disease of the ovary, the condition of the patients was good. All were placed upon preparatory treatment, extending over periods varying from two weeks to two months.

Line of Incision.—In all cases the abdominal cavity was opened by incision in the linea alba, midway between the umbilicus and pubes, the length of the incision varying according to the nature of the tumor and the presence or absence of adhesions. A simple,

monocystic, non-adherent growth was extracted easily through an opening one and a half inch in length; whilst other tumors, polycystic in character, with numerous and strong adhesions, required incisions from four to six inches in length, in order that the hand could be introduced into the abdominal cavity, so as to sweep over the external surface of the tumor for the purpose of detaching adhesions, and also into the interior of the growth to disintegrate its contents, and thus reduce its size. The incisions were invariably closed by the introduction of metallic sutures—iron or silver wire—the needle being carried so as to include the peritoneum.

Adhesions.—In eighteen cases, adhesions, either parietal, omental, or visceral, existed—differing greatly as to extent and character. In some instances they were so slight as to be separated readily with the finger: in others, they were very extensive and very firm, requiring some force to effect their detachment, and exposing denuded, bleeding surfaces. In one of the fatal cases the adhesions were universal, and so firm as to require a minute dissection to be made, in order to effect removal of the cyst.

In a second case, a portion of the parietal surface of the peritoneum as large as the palm of the hand, and embracing the sub-peritoneal fascia, was detached, leaving a broad band of attachment. This was included in three animal ligatures, and the detached portion removed. During the period of recovery, which was not retarded, the patient referred to the position of the exposed surface as a sensitive point. In still another case, an adhesion, in the form of a cord, at least two inches in thickness and from four to five inches in length, fastened the tumor to the parietes. It was drawn down and a double animal ligature applied before section was made. Hemorrhage caused by the separation of adhesions has been controlled by the application of carbolized silk and animal ligatures, both ends being cut short and the ligatures permitted to remain "*in situ.*" In some instances, torsion of the vessels has been sufficient to restrain the bleeding.

Character of the Cysts.—Four cysts were unilocular, sixteen were multilocular, and in two, malignant disease existed. In one of the latter medullary cancer involved both ovaries, and in the other colloid disease was present.

Double ovariotomy was performed in two cases.

Primary or Secondary Operation.—In one case the operation was secondary, ovariotomy having been performed thirteen years previously. In this instance the incision was made to the side of the cicatrix of the primary operation, so as to avoid wounding the pedicle of the tumor removed, which was found to exist as a small cord attached to the inner surface of the abdominal wall, and to be of such length as to permit the uterus to occupy a normal position. Elongation and shrinkage of the pedicle has been observed in *post-mortem* examinations made in cases in which death occurred some years after ovariotomy.

Treatment of the Pedicle.—In all but one case the pedicle was secured by the application of the clamp; in the case excepted, a carbolized catgut ligature was applied, both ends cut short, and the pedicle was returned to the abdominal cavity. In cases of very short pedicles I have been able always to secure them with the clamp, and in no case was it observed that the traction made to accomplish this produced any harm. In one instance of an extremely short pedicle, where, in fact, the wall of the cyst was separated not more than a half inch from the uterus, a double animal ligature was applied, which failed to control the hemorrhage. The clamp was then applied over the ligature, bringing the uterus well up between the edges of the incision. Although the patient had a tedious convalescence, the ligature and clamp came away in good time, and the abdominal incision healed kindly. Beneath the cicatrix the uterus could be distinctly outlined, and after the return of the patient to her usual duties no complaint was made of pain caused by traction upon the organ. In one case only was there noticed a slight tendency to the occurrence of ventral hernia, and this in a young patient who slipped and fell on the icy pavement a short time after recovery from the operation. A good deal of tension of the abdominal walls was felt in the act of falling, and it was thought a slight detatchment of the pedicle had occurred. Rest in bed for a few days, with pressure over the cicatrix, relieved the condition.

In nearly all of the cases in which the clamp was applied it was observed that it could be removed safely at about the same time with the last of the sutures, and, therefore, the healing of the abdominal incision was not materially delayed. In one or two cases both sutures and clamp were permitted to remain longer than usual. In favorable cases the first of the sutures was usually removed on the sixth day, and the clamp on the eighth or tenth.

In three cases menstruation has occurred by the pedicle. In all of the cases it took place but once, and did not produce any serious inconvenience. It occurred in one of the cases in which double ovariotomy was performed, two clamps having been applied to the pedicles without difficulty.

Strangulation of the intestine has been noted as being due to the use of the clamp. In my observation of the cases of others, and in my own, I have not met with an accident of this nature. As it has followed likewise the use of the ligature, it cannot be ascribed alone to the employment of the clamp.

The support afforded to the uterus by the attachment of the pedicle to the abdominal walls has seemed, in some of the cases, to have been of benefit, overcoming displacements which were productive of much previous discomfort.

In one of the three fatal cases which occurred, the ligature was applied and the pedicle returned to the abdominal cavity; death resulted on the third day from septicæmia, and the autopsy showed the stump of the pedicle softened and covered by a grayish slough. This condition of the pedicle was, I think, not a primary condition, but was a part of the general inflammation which pervaded the abdominal cavity, occurring in a case in which the cyst was adherent in every part to the parietes and viscera, and which required minute dissection to effect its separation.

While the tendency of the present day is to return to the use of the ligature as an exclusive method of treating the pedicle, I think it unwise to discard entirely the clamp. The imbedding of the ligature and its subsequent absorption demand a degree of reparative power, which some much debilitated patients do not possess; in such cases it would appear proper to employ the clamp.

Drainage.—In one case it was thought desirable to secure drainage of the abdominal cavity after operation. For this purpose a large perforated rubber tube was introduced and allowed to remain in position for three days. During this period no fluid escaped, and the symptoms presented by the patient gave no indication of the collection of septic fluids. Of the great value of drainage after ovariotomy there can be no question. Its use is especially indicated in cases in which adhesions of some extent have existed.

Antiseptic Precautions.—In fourteen cases the antiseptic methods were employed in full detail at the time of operation, and partially during the conduct of the after-treatment, the spray being then omitted. The

successful results which have attended some of the cases were undoubtedly due to its use. The condition of the patients during the after-treatment was favorably influenced, and convalescence was promoted. Of three fatal cases, one occurred after operation under this system. The tendency of most operators at the present time is to employ a modified form of the system, owing to the fear of constitutional impressions made by the agents employed. The constitutional effect of the carbolic acid has been observed in two or three cases in the condition of the urine; other than this no symptoms were noted.

It has been stated above that menstruation by the pedicle occurred in three cases. In one a marked impression was made upon the temperature, and the elevation, occurring as it did without being accompanied by a corresponding increase of the pulse-rate, attracted attention. On the day preceding the appearance of the flow the pulse was 84 and the temperature normal, 98½°. On the day of its appearance the temperature rose to 100°, and on the third day reached 100⅘°, then declined to 99⅘°–99°, and on the day of the cessation of the flow returned to the normal, 98½°—the pulse-rate in the meanwhile remained unchanged. As the elevation of the temperature occurred after convalescence had been fully declared, and the patient was within two days of the period when she would have been permitted to sit up, some anxiety as to the cause existed, which was not relieved until its relation to the presence of the menstrual flux was considered.

In two of the cases pregnancy occurred and terminated safely in connection with the development and growth of the cysts. In both, the cysts had attained large size, and notwithstanding the pressure exerted during parturition rupture did not occur. In one, puerperal peritonitis supervened, causing the formation of extensive adhesions; in the other, slight but firm adhesions were found.

In cases under my care recently, quinine has been administered in large doses in the twenty-four hours preceding the operation, with a view to obviate shock, and in this respect its use has been attended with success. Thirty to sixty grains, in divided doses, have been given, and in each case so treated shock has been absent. In the preliminary and after-treatment it has also been given in tonic doses.

The duration of the operation has varied from thirty minutes to two hours; in the former time, monocystic non-adherent tumors have been removed and the wound closed. The latter period of time has been required to remove polycystic growths, with extensive and firm adhesions and many bleeding points to control. Serious complications during the operation and after-treatment have occurred in but two cases. In one already alluded to the adhesions were so extensive as to complicate seriously the operation and to render the result fatal. In the other, the slipping of the ligature and the persistence of hemorrhage for some hours after the closure of the wound complicated the operation. This patient's recovery was slow, two months and a half elapsing before she was able to leave her bed, in which period there occurred in order the following complications—obstinate, uncontrollable diarrhœa, suppuration of hemorrhoids, formation of a large bed-sore over the region of the sacrum, with destruction of the sacro-coccygeal articulation, and a condition of blood-poisoning with swelling of the left parotid gland. Recovery finally took place, and the patient has been able to maintain herself by her work as a seamstress.

The size of the tumors varied greatly, and the weight from three to sixty pounds.

With one exception, all the operations have been performed either in private houses or in a private hospital. One was operated upon in a private room of a general hospital, and in this a fatal result ensued—death, however, could not be attributed to this fact, but rather to the complications which existed in the case. In all cases careful attention was given to the preparation of the apartments so that the patients should be placed under the most favorable hygienic conditions.

In the cases in which the progress was favorable the patients, as a rule, sat up in bed on the twelfth day, and on the fourteenth were permitted to get out and occupy the lounge or an easy-chair. At the end of the third week gentle exercise about the house, and, in favorable weather, in the open air was allowed. This exercise was continued daily so as to prepare the patient, if living out of the city, for the journey home, which was undertaken between the fourth and fifth weeks after operation.

For twenty-four hours after the operation no food was given—at the end of this time, one ounce of milk, with lime-water, if vomiting had occurred, or if there was nausea, was given every three or four hours. In two or three days the amount of milk was increased to two ounces every three hours, alternating with a teaspoonful of beef-juice in three tablespoonsful of water. In some cases the beef-juice was administered instead of the milk from the first. As convalescence advanced additions were made cautiously to the diet, no solid food being given until the sutures and clamp had been removed and the bowels moved freely by enemata.

Usually enemata of soap-water and olive oil were administered on the eighth day, and on alternate days, subsequently, until evacuations occurred naturally. The catheter was used every six or eight hours for five days, and then efforts at evacuation of the bladder were permitted to be made by the patient.

When possible to avoid it, opiates were not administered. When required to relieve pain or secure rest, morphia in one-sixth to one-quarter of a grain was given hypodermically.

In the twenty-five abdominal sections death occurred in four cases—three after operation for the removal of ovarian cysts, and one after operation for the removal of the child in extra-uterine fœtation. Septicæmia was the cause of death in two of the ovarian operations, and in the case of extra-uterine pregnancy. Shock and hemorrhage produced a fatal termination in the case of malignant disease of both ovaries in which double ovariotomy was performed.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 7, 1882.

THE PRESIDENT, FORDYCE BARKER, M.D., LL.D., IN THE CHAIR.

THE minutes of the previous meeting, and the usual reports of the Librarian and Corresponding Secretary were first read and approved.

DR. BARKER stated that, having acted as presiding officer of the Academy during a period of four years, he desired to make a few remarks relative thereto, pending the close of his second term of office. During his presidency the Academy has been unusually prosperous. A large number of valuable scientific papers have been read by Fellows of the Academy, extensive additions to the library have been made, and the general financial condition of the organization has been greatly improved. He said that the Academy's recent prosperity was the result of the good work which had been done before, and that he had been extremely fortunate in having been the incumbent of the chair during this particular period. In conclusion he signified his intention of not again becoming a candidate for the office of President.

The nominations for officers were next proceeded with, after which the scientific work of the evening was taken up. This consisted in a paper by ALLAN MCLANE HAMILTON, M.D., entitled,

A CASE OF MYXŒDEMA, WITH A CONSIDERATION OF THE NEUROTIC ORIGIN OF THE DISEASE.

The paper began with a brief, but careful, mention of the few cases of this new and interesting disease already reported. Myxœdema is an affection of adult life, chiefly in females. It resembles cretinism; also Bright's disease, with which it has been confounded. It usually occurs after the menopause, and in women who have been many times pregnant. The symptoms are well marked, characteristic, and more than ordinarily constant. There is swelling of nearly all parts of the body, notably of the cheeks, nose, lips, eyelids, and tongue. The legs and ankles are often enlarged. On pressure there is no pitting; the surface is tough and resilient. The part pressed upon regains its form when the pressure is removed. Sensibility to peripheral impressions is decidedly diminished. Numbness is present, and sometimes formication. The skin is altered in texture, as well as in color. There is little or no perspiration, and little response to friction or stimulation of the surface. At times there are warts and moles in various regions. The finger ends are clubbed. This, in common with many other symptoms, is apt to be more marked on the right than on the left side. The nails are brittle, and their thickness and configuration changed. The hair comes out from the axillæ and pubes, as well as the head. The thyroid gland wastes away, and fatty deposits are often made in its atrophied substance.

Lowering of temperature is a very important symptom. This tends to be more marked on the right side, which is often a degree or more lower than the left side. In a case where seventy-one observations were taken, the normal was reached in but sixteen. The temperature never exceeded 98.6°, and it fell below 97° nineteen times. It may decline to 95°, and in one fatal case it was 94° for a day or more before death. The temperature is lowered both superficially and internally; and patients complain that they feel very cold.

The mind is involved early in the disease. The first symptoms vary. There may be hallucinations, melancholy, moroseness, bad dreams, and disturbed sleep, and even mania. Later there is marked apathy. Mental processes are very sluggishly performed. The patient is forgetful, especially of recent events and trifling duties, dull of perception and comprehension, and lacks power of concentration.

The special senses are less acute, especially the hearing, taste, and smell. The sight is not often affected. The speech is slow and thick; the voice nasal, harsh, and monotonous—these changes arising from the mental inactivity, from the enlargement of the tongue, and sometimes from relaxation of the vocal cords. In some cases the saliva is very profuse; in others there is an abundant watery secretion from the nose. Sometimes the tendon-reflex is exaggerated. Electro-muscular contractility and galvanic reaction may be diminished on the left side.

There is also motor enfeeblement and derangement. The loss of power is often general, but some patients who perform great efforts with ease fail in minor matters. They are awkward in all their movements, especially those requiring delicate coöperation of several muscles, as in threading needles, buttoning clothes, writing, etc. The peculiar gait resembles the waddling of a duck.

The arterial tension is generally increased. This may be shown by the sphygmograph, though the toughness of the skin makes it somewhat difficult to get satisfactory tracings. There are rarely any heart lesions. The pulse is slow and feeble. The red blood-corpuscles are reduced in number, and especially in size, giving rise to anæmia.

Albumen is seldom found in the urine, very rarely in the early stages. The urea is diminished in amount, sometimes to two-fifths the normal quantity. This may be explained, at least partially, by the muscular inactivity. The specific gravity of the urine, as a rule, is low. Sugar has been present in but one case.

Dr. Hamilton cited a recent case of his own, presenting many of the foregoing symptoms. The patient is a woman 55 years old. She is married, and has been pregnant eight times. Her characteristic symptoms date back about eighteen months.

The speaker believed the etiology of myxœdema to be very obscure.

He dwelt at some length upon the pathology of the disease and its relation to the pathology of other puzzling reflex maladies. Post-mortem examinations have not been numerous, careful, or searching. No microscopical examinations have been made of the brain, medulla, cord, or sympathetic ganglia. However, it is generally conceded that the primary lesions are in the nervous system. The existence has been established of a principal vaso-motor centre in the medulla which, when irritated, contracts the vessels and lowers the general temperature. This centre Dittmar locates in the lateral columnar tract of the formatio reticularis, between the corpora quadrigemina and the calamus scriptorius. The experiments of Goltz and others show that this centre controls the action of the lower centre or centres. This centre is near the origin of the trigeminal, the hypoglossal, and the auditory nerves; disturbances of which will produce salivation, facial anæsthesia, an ataxic condition of the tongue, and impaired hearing. Irritation of certain parts of the floor of the fourth ventricle, near the above-mentioned vaso-motor centre, will produce glycosuria. Gruetzner found that an irritation of the medulla that would cause profuse salivation also caused irritation of the sympathetic, evidenced by general rather than local manifestations. Dr. Hamilton therefore believed that a tissue change, even that limited to the medulla, was capable of producing a general disorder of the trophic centres. He refers the seat of the primary lesion in myxœdema to the principal vaso-motor centre in the medulla. The mental symptoms are caused by the resulting vascular disturbances in the brain. The cutaneous trophic change he was inclined to refer to subsequent changes in the lateral and posterior columns of the cord. Cell degeneration in the giant cells of the anterior horns and the gray matter of the posterior columns has been observed in one case. Though the cause of the cutaneous change is obscure, there is significance in certain facts and experiments.

Raynaud and Arthaud have lately shown that in certain cases of spinal sclerosis, attended with trophic cutaneous derangements, there is degeneration of the spinal sympathetic ganglia, with disappearance of Remak's fibres and destruction of the nerve cells. Moreover there is a close connection between pigment alteration, thyroidal enlargement or atrophy, and mental disturbance. Myxœdema appears to be a sort of antithesis to exophthalmic goitre. In all carefully reported cases of myxœdema there are striking nutritive changes, indicative of a pathological upheaval of the sympathetic nervous system.

A microscopic examination of the skin showed great increase in fibrous tissue, and general evidence of a low inflammatory process. The vascular walls were thickened, and they were infiltrated with mucin. Though several sweat glands were seen, not one had a duct that was pervious to the surface. No nervous

degeneration was discovered. The brain shows atheromatous vessels, and is anæmic

The only affections from which it really needs to be differentiated are the various forms of renal disease. Myxœdema should include only cases with tough elastic swelling, mental derangement, speech defects, thyroidal atrophy, deafness and constant lowered temperature.

The prognosis is usually bad. It probably belongs to the long list of progressive degenerative and fatal disorders of the nervous system. Its course is a comparatively long one.

The treatment is not very satisfactory. Jaborandi has been tried without avail. Sulphur baths have been recommended. Nitrite of amyl, and nitro-glycerine in $\frac{1}{50}$ drop doses, have proven beneficial.

The paper closed with a bibliography of the subject.

DR. BALL, being called upon to introduce the discussion, remarked that he did not propose to discuss the paper. The only contribution he could make was to refer to two or three points of interest in a case of myxœdema now under his own observation. The patient was a woman forty-five years of age, whose myxœdemic symptoms dated back nine years. Her general health was in such a condition that in all probability she would live several years longer. Before she came under the Doctor's treatment, which was eight years ago, she was under the care of another physician, who was extremely puzzled in regard to her case and had made a diagnosis of idiopathic anæmia. When the patient first came under the observation of Dr. Ball, some eight years ago, the objective symptoms of the disease were quite characteristic. Her mental symptoms, though peculiar to the disease at that time, were not as marked as at the present. About a year after she began to manifest symptoms of the disease, her menstruation ceased entirely and remained absent five years, at the end of which time she became pregnant, and, arriving at full term, she was delivered of a healthy child, who still lives and is in good health. In 1877 the patient was seen by a prominent neurologist of this city and a diagnosis of Addison's disease was made, together with the prognosis of fatal result within a year. No very good reason for such a diagnosis was apparent, the only symptom which might lead to the suspicion of the disease being bronzing of the face.

There was one other point of some interest in the case to which he would like to refer, and that was that although the œdema in the majority of these cases is a solid œdema, yet there are cases, and the one under consideration is one of that kind, in which there is a certain amount of ordinary œdema; that is to say, the feet and ankles do pit on pressure as much as in the ordinary anasarca of Bright's disease, and this is independent of any trouble with the kidneys. Examinations of the urine in this case were begun as far back as nine years ago, and have been repeated at intervals up to the present time with the result of finding no evidence of renal disease. Hence it will be seen that the œdema is not always solid.

There is still a third point of interest in the case, namely, that the patient is subject to paroxysmal enlargement of her whole body. This enlargement of the body is so manifest as to attract the attention of her friends. It is marked by the diminution in the secretion of urine for three, four, or five days, at the end of which time she begins to pass large quantities of limpid urine, and the swelling of her body subsides so rapidly that she says she can almost feel herself becoming smaller. Dr. Ball was not aware of this being a common symptom of the disease, but in his patient it was well marked.

The hair of the head in this patient had fallen off to a considerable extent, and from the axillæ and pubes it had entirely disappeared. The typical facial expression of myxœdema is very marked in this case, so much so that when she was seen unprofessionally in this city by a physician, during the absence of the speaker, the physician was forcibly impressed by it, and though he had never seen a case of myxœdema, he wrote a letter to Dr. Ball on the following day asking if his patient was not suffering from myxœdema; so exactly did her facial expression resemble that described as peculiar to the disease. Dr. Ball thought these facts went to show that we had to deal with a special form of disease, and not a part of the general form of disease which Sir William Gull, Mahomed, and others have described. Dr. Mahomed had laid a great deal of stress upon the fact that Bright's disease is not confined to the kidneys, but is a general disease; that only 30 per cent. of the cases of Bright's disease die of the renal lesion. It was thought that to consider myxœdema as only one form of Bright's disease was rather stretching a point. The symptoms present were so entirely different from those of ordinary Bright's disease, or even the general form of Bright's disease to which authors have alluded, that it seemed proper that the disease should not be looked upon as a special one. The nervous symptoms were not the same as those found in Bright's disease and these were, not oftentimes, but generally, seen in the early stages of the disease. In his own patient the mental inactivity was a marked symptom early in the disease.

DR. BULKLEY said that he had had the pleasure of seeing five of Dr. Ord's cases presented at the International Congress in London, more than a year since. Some of the cases he thought would not have been recognized from their appearance as cases of myxœdema unless carefully examined. Two of the patients, however, were remarkably stupid. One or two had the drooping head characteristic of the disease. The affected tissues were enlarged by a process of non-inflammatory infiltration. An important point seemed to be the early recognition of the disease. The speaker had two patients now under observation in which he thought it was probable that myxœdema was present. In one the œdematous swelling was very marked upon the hand, and her facial expression was quite characteristic. She is a music teacher by occupation, and is a person who is constantly under enormous mental strain. Preceding the development of her present condition she had two attacks of an inflammatory condition of the skin with eczematous patches, and the formation of large boils. On these occasions she suffered greatly. The second patient was a very nervous lady, and had only come under observation within the past two or three days. He was unable to offer any suggestions regarding treatment. He referred to a case exhibited at the Dermatological Society in which myxœdema was suspected.

DR. ALEXANDER said that the patient referred to by Dr. Bulkley had suffered since two years of age from swelling of the face, which seemed to be a hypertrophy of tissue rather than a condition characteristic of myxœdema.

DR. W. T. ALLCHIN, of London, being called upon by the Chair, after characterizing the paper of the evening as, in his opinion, the most masterly summary of existing knowledge on the subject of myxœdema, said that he had no clinical experience with the disease. He thought that the point of special importance in connection with the disease just now was the consideration of its possible cause. The determination of the causes of disease was one of the most difficult parts of our knowledge, and it seemed that in this case the ordinary difficulties were added to on account of medical gentlemen being somewhat shy in expressing opinions fully, for fear of rashly anticipating views which

may soon be disproved. He thought that the expression of the opinion that the disease was of neurotic origin might be a source of fright to some. We were singularly deficient in our knowledge of the minute morbid anatomy of the disease, and he thought that the most important point of Dr. Hamilton's paper was, after all, the description of the microscopical appearance of the piece of skin removed from his patient. Pathologically, he thought, the lesion would be found to be a trophic change in the connective tissue. The presence of the nuclear overgrowth and mucin showed a failure in the reparative processes and consecutive growth of tissue. He thought we were hardly warranted in making conjectures as to whether the disease was of central or peripheral origin until we ascertained by post-mortem studies what tissues were principally affected.

There were no further remarks upon the paper.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, November 14, 1882.

T. M. MARKOE, M.D., PRESIDENT, IN THE CHAIR.

DR. E. L. KEYES read a paper on

PNEUMO-URIA.[1]

DR. H. B. SANDS thought that most surgeons had seen cases in which a gas had been expelled from the bladder; but, in the large majority, as had already been stated by Dr. Keyes, there existed a fistulous communication with the intestinal canal. There were some pathologists who believed this to be the only source of gas in the bladder, except when atmospheric air was introduced from without. One eminent medical authority, Dr. A. Clark, doubted the possibility of gas being the result of decomposition of the contents of the bladder. Dr. Sands had got so far, however, as to believe that such was sometimes the fact, and he could recall distinctly two cases, and indistinctly a third, in which he had concluded that the gas which was emitted from the urethra in considerable quantities, was the result of decomposition of blood-clots remaining in the bladder during severe hæmaturia. One of these patients he saw, many years ago, in consultation with Dr. McCready, and a careful examination failed to reveal any fistula. The air never escaped from the bladder except during attacks of hæmaturia, and not always then. He was not positive whether it was odorless. He believed careful and further inquiry was necessary in order to establish the fact that atmospheric air was ever found in the urinary bladder, unless it had been introduced from without. To the careless statement made by Mallez that, "it was not uncommon to find air in the bladder," he would not attach any importance whatever.

With regard to the probability of air being secreted by the vesical wall, he doubted whether there was any close analogy between the bladder and the intestines. He was not aware to what extent the gases of the intestine were the result of a secreting process on the part of its lining membrane, and how far they were the result of fermentative changes occurring in its contents. He believed, however, that the alimentary canal contained no atmospheric air beside that which had been swallowed in the ingesta. The organ analagous to the urinary bladder was the gall-bladder, and he was not aware that air had ever been found in that viscus.

The PRESIDENT asked whether or not it had been determined by physiologists or chemists that atmospheric air could be produced by decomposition of any kind. He thought he was quite safe in assuming that no form of decomposition gave rise as one of its products to atmospheric air, and, therefore, that if the gas in the bladder in the cases reported had been proved to be atmospheric air, the probabilities were in favor of its having come from without.

DR. L. A. STIMSON, referring to the case mentioned by Dr. Keyes in which the gas was proved to be nitrogen, said that free nitrogen was not a product of the putrefaction of an albuminous substance like blood. Free nitrogen in very small quantity was held in solution in the blood, but so also was oxygen; and there was no reason to suppose that either would be given up by the blood to remain free in the bladder. A possible source of the nitrogen was the urea of the urine in the bladder. A common method of quantitative analysis of the urea is to decompose it, and measure the volume of its nitrogen, and as a small amount of urea furnishes a large bulk of nitrogen (one grain gives nearly two cubic inches) a very extensive decomposition would not be needed to produce the amount of gas observed. The decomposition is effected by very simple measures, the addition of Labarraque's solution, outside the body, and it might perhaps be as readily effected within it.

DR. WEIR referred to two cases in which, the patients suffering from cystitis from an enlarged prostate, air was discharged from the bladder through the urethra, but probably it was admitted from without, as a catheter was in frequent use in both cases. He would add to the references made by Dr. Keyes, an excellent article written by Blanquinquic on vesico-intestinal fistulæ, in which the writer speaks of air being found in the urinary bladder, but does not consider it to be clearly established, and he gives his conclusion that the spontaneous discharge of bubbles of air at the close of urination indicates without doubt that the cause of these is the intestine.

DR. KEYES was quite certain that he had seen a case in which gas was formed in the stomach of a patient who had diabetes, and finally died of albuminuria. He took no food whatever by the mouth during a long period, and yet he belched enormous quantities of gas.

He had also seen one case where gas appeared in the bladder, as the clot from hæmaturia was breaking up, and he supposed it arose from decomposition of the blood.

DR. GEORGE A. PETERS recalled a case in which there was considerable gas in the bladder in connection with hæmaturia, and it ceased when the hemorrhage stopped. He supposed that the gas was one of the results of decomposition of the clot.

[1] See page 675.

NEWS ITEMS.

HERKIMER, N. Y.

(*From our Special Correspondent.*)

THE HERKIMER COUNTY, N. Y., MEDICAL SOCIETY AND THE NEW YORK CODE.—At the semi-annual meeting of the Herkimer County Medical Society, held December 5, the following preambles and resolutions were passed, only one vote having been recorded against the motion:

Whereas, The New York State Medical Society, at its last annual meeting, adopted a new system of ethics, in place of the code hitherto in force, for the guidance and conduct in practice of the medical profession of this State, and,

Whereas, We believe that in making the radical changes therein contained they have placed us directly in conflict with the parent organization, the American Medical Association; therefore,

Resolved, That we, the Herkimer County Medical Society, hereby declare our continued allegiance to the precepts and ethical Code of the American Medical Association, adopted June 15, 1847.

Resolved, That the delegate to the State Medical Society be instructed to urge by all honorable means the repeal of the existing Code.

Thirty-four of the New York County Societies have already declared against the new Code, and but two have accepted it.

BROOKLYN.

(*From our Special Correspondent.*)

THE SUIT FOR MALPRACTICE AGAINST THE LONG ISLAND COLLEGE HOSPITAL.—The recent suit of Carl Eibee against the Long Island College Hospital to recover twenty-five thousand dollars on the ground of alleged malpractice by the surgeons of that hospital, while he was an inmate under treatment for severe injuries caused by the fall of a boiler upon him, was dismissed by Justice Gilbert, in the King's County Supreme Court, the Court holding that neither malpractice nor negligence were shown. This case was watched with much interest by the neighboring profession.

BALTIMORE.

(*From our Special Correspondent.*)

THE INFLUENCE OF DIGITALINE UPON THE HEART.—MESSRS. H. H. DONALDSON, A.B., Fellow in Johns Hopkins University, and L. T. STEVENS, A.B., have been conducting a series of observations upon the influence of digitaline upon the heart of the slider terrapin and the frog. Their very interesting results are appended, and it is to be hoped that they will be asked to continue their researches upon the isolated mammalian heart, as proposed.

The results which we have to mention are derived from two groups of experiments. The first was carried on by Messrs. Warfield and Donaldson during the first five months of this year; the second, which is simply a continuation of the first, has been carried on by Messrs. Donaldson and Stevens since October. Though they are not yet complete, we are, however, able to give some of the results which have been obtained.

The first investigation was on the work of the heart, and the object was to determine whether the work done by the isolated heart was increased or decreased by moderate doses of digitaline. The heart of the slider terrapin was used (*Pseudemys rugosa*, Shaw). Carefully isolating the heart from its connection with extrinsic nerves and the rest of the circulatory system, it was supplied with a continuous stream of blood under conditions of pressure and temperature as near the normal as possible. It was then found that when the heart, beating normally, was treated with a small dose of digitaline, the work invariably decreased. The full account of these experiments was published in the *Studies from the Biological Laboratory of Johns Hopkins University*, vol. ii., No. 3. This fall, the frog (*Rana mugiens*) was used instead of terrapin; the same result, however, followed—*i. e.*, the work done by the heart decreased under moderate doses of digitaline.

With a view to testing the influence of abnormal blood pressures on these results, some experiments were made in which both venous and arterial pressures were varied within wide limits, but the work always decreased. To test the effect of aortic insufficiency, the canula was pushed in the aorta down past the semilunar valves into the ventricle itself. Under these conditions the heart weakened very fast, but the only effect of digitaline was to decrease the work. A study of the separate beats of the frog's heart shows that the work at first decreases, because the excursion of the ventricle—the variation of capacity between diastole and systole—is somewhat decreased, the rate of the pulse being only slightly diminished. Later the pulse is often slowed to half the normal rate while the work has by no means decreased proportionally, This arises from the fact that the excursion of the ventricle is now much greater than is normal, and thus somewhat compensates for the diminished pulse rate. In this latter case the individual beats of the heart are very much strengthened.

To test the variation in form which takes place in the heart under digitaline, use was made of Roy's tonometer (*Journ. of Physiology*, vol. i., No. 6). By this means one can determine whether the primary diminution in the excursion of the ventricle is due to a gradual shrinkage or distention of the ventricular muscle. Experimenting with the isolated ventricle, they have always obtained evidence of a shrinkage—that is, the ventricle tends more and more to remain in the systolic condition. They have not yet been able to observe in these experiments the condition of the ventricle described above, where it beats slowly, but at the same time with an excursion much greater than normal.

The isolated auricles also shrink under the action of digitaline. This shrinking of the auricles can be directly observed in the heart of the terrapin without the aid of any apparatus, but in the case of the frog it requires the tonometer to make it plain. The variations in the volume of the whole heart have not yet been tried.

By moderate does are meant, from .0005–.002 grm. of the soluble German digitaline mixed with 100 cc. of nutrient fluid. The drug used was prepared by Merck.

The bearing of these results can be briefly noted. Starting from the fact that they do get a rise of blood pressure under digitaline, it is evident that this rise is not due to the heart, because, under all varieties of conditions, the heart does less work.

The rise must then be due to a narrowing of the arterioles, a view maintained by many, but on which they can, as yet, offer no direct evidence. It appears, then, that digitaline is a drug by means of which we can maintain a high arterial pressure and at the same time reduce the amount of work done by the heart itself.

It is hoped in the course of the year to extend these observations to the isolated mammalian heart, and thus render the series of experiments complete.

NEW ORLEANS.

(*From our Special Correspondent.*)

YELLOW FEVER.—Among the recent admissions to the Charity Hospital, was one of yellow fever: At least such would be the almost unanimous verdict of our profession throughout Christendom, if the symptoms and facts were laid before them.

The facts as presented are as follows: An English seaman arrived at New Orleans on the 15th of November, his ship having touched at several ports in the island of Cuba, but certainly at Cienfuegos on Sunday, November 12th. The ship left Cienfuegos on the 13th, on which day the sailor took sick. He was brought to Charity Hospital on the day of arrival. "On the 17th at 8 A.M., temperature, 100°; pulse, 60; vomiting fluid with dark deposit; eyes injected and jaundiced; body slightly jaundiced; dark brown coating over tongue—edges and tip very red; gums much congested, and bleeding on slight pressure; has passed no urine for fifteen hours; catheter introduced and two ounces drawn—nearly one-half albumen. He complained of thirst and pain in the epigastrium. At 7 P.M., temperature

100°.5; pulse 72, weak; restless; mind clear; eyes and surface more jaundiced; vomited a basin half-full of dark grumous fluid; one and a half ounces of urine obtained by catheter, one-third albumen. 10 P.M., very restless, delirous; pulse barely perceptible; convulsions and death at 10.30 P.M." During his sickness well-marked extravasations occurred around mosquito-bites upon his face and hands.

In this case the death was entered upon the mortality records as having been caused by "hemorrhagic malarial fever."

In all instances where it is possible to do so, the facts connected with these fatal cases of "hemorrhagic malarial fever" should be laid before the profession for instruction and such criticism as may appear to be proper. Otherwise we are liable to the charge of employing the term as a scapegoat for either erroneous diagnosis or for premeditated concealment of the true nature of the disease.

We have seen some hundred or more cases like the one just reported, but among the whole number not one could be properly referred to the swamp-poison. There is no point more strongly marked in the whole range of medical pathology than the contrast between the malarial poison and the yellow fever poison in establishing a hemorrhagic diathesis.

People may preach heresies in religion or in astronomy, and declare that the "sun do move," and we may be speedily rectified without appreciable damage. But the inexperienced observer, after reaching such a clinical report of symptoms and the diagnosis, may innocently enough allow a real case of yellow fever to breed a destructive epidemic.

THE ANNUAL DINNER OF THE MEDICAL AND SURGICAL ASSOCIATION has just been celebrated. The occasion was unusually agreeable.

THE NEW ORLEANS MEDICAL AND SURGICAL JOURNAL has just been purchased by Dr. W. H. Watkins. Dr. S. M. Bemiss, the senior editor of this periodical, has retired from medical journalism. The new editorial corps will appear on the cover of the December number of the Journal. Your correspondent does not know how the names will be arranged, but he does know that men of ability will be joined with the new editor, and that the Journal will gain in interest and value by the change.

CANADA.

(*From our Special Correspondent.*)

ONTARIO HEALTH BULLETIN.—The Provincial Board of Health of Ontario is publishing a weekly bulletin, in form of a colored map, on which the Province is divided into ten districts, and the six diseases most prevalent in these are arranged in order of their prevalence; at the same time the percentage of each disease is given. From the map we gather that malaria prevails extensively in the three districts bordering on Lake Erie. In No. 10, the Lake St. Clair district, the percentage of intermittent fever is given as 22. In district No. 3, the Muskoka region, 8 per cent. of the cases reported were gonorrhœa. The word "Lumbermen," printed across this region probably explains the fact. A weather report accompanies the map, and diagrams showing the comparative area of prevalence of the various diseases.

The publication of the bulletin will do much towards directing the attention of the profession and public to sanitary science.

PUBLIC HEALTH.—The most important health convention which has taken place in the Dominion met in Ottawa on the 6th and 7th of this month. Delegates were present from each of the Provinces, and the whole question of vital statistics thoroughly discussed. The following resolutions were carried:

1. That a uniform system of collecting and compiling health statistics be adopted for the whole Dominion.

2. That the Dominion Government be requested to take measures to procure reliable health statistics from every city, town, or municipality where local boards of health are now or may hereafter be established, with the view of determining the locality and nature of diseases to which Canada is subject.

3. That a Bureau of Vital Statistics be established at Ottawa in connection with one of the public departments.

The delegations afterwards met the members of Government and presented a series of resolutions. Unfortunately, the Act of Confederation leaves health matters with the local government, while the Dominion Government has to do only with vital statistics. The possibility of amending the Act was discussed. A meeting was subsequently held, and the necessary preliminary steps taken to organize a Canadian Sanitary Society.

VIENNA.

(*From our Special Correspondent.*)

PRIORITY CLAIM FOR INTRODUCTION OF IODOFORM.—At a recent meeting of the Society of Physicians in Vienna, Prof. E. Ludwig read a very valuable paper upon iodoform. In the discussion which followed, a very spirited dispute arose as to the priority claim of introduction of the remedy into surgery.

Dr. Braum, Prof. Mosetig's assistant, claimed the honor for his *Chef*.

Docent Dr. Kohn affirmed that Lazauski, in Prof. Pick's clinic, applied the remedy before any one else, in the treatment of venereal ulcers.

Docent Dr. Grünfeld asserted that he, himself, had used an iodoform salve still earlier.

Prof. Ludwig quietly put an end to the angry disputation by saying that the literature of the subject showed very plainly that the drug had been extensively used, in very various diseases, as early as 1822.

DR. MORRISON, OF BALTIMORE.—Dr. Morrison, of Baltimore, who has been studying dermatology and syphilis for a long time in Vienna, with Profs. Neumann and Kaposi, is announced for a paper before the next meeting of the Society of Physicians of Vienna, embodying his recent researches upon the bacteria of syphilis.

A NEW INSANE ASYLUM FOR EASTERN NEW YORK.—A resolution was introduced at the meeting of the Board of Supervisors held at Poughkeepsie, last Monday, urging the erection of another Hudson River State Hospital for chronic insane cases, for the accommodation of the eastern portion of the State, and asking the co-operation of the Supervisors of the counties of Clinton, Franklin, Warren, Washington, Saratoga, Rockland, Albany, Rensselaer, Green, Columbia, Westchester, New York, Kings, Queen, and Suffolk.

DR. HOLMES' SUCCESSOR.—DR. THOMAS DWIGHT, former professor of anatomy at Bowdoin College, and grandson of Dr. John C. Warren, the predecessor of Dr. Holmes, will complete the course of lectures on anatomy at the Harvard Medical School this winter.

SURGEON-GENERAL OF NEW YORK.—Governor-elect Cleveland, of New York, has just appointed Joseph D. Bryant, M.D., professor of anatomy in Bellevue Hospital Medical College, Surgeon-General of New York State.

THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE.—The Medical Society of King's County has adopted the following resolution in support of the present management of the Surgeon-General's Library.

Resolved, That the Medical Society of the County of Kings learns with regret that there is danger that the Surgeon-General's Library, which is considered the most complete medical library in the world, will be merged into the Congressional Library; and hereby urgently but respectfully requests that the Representatives in the Senate and Congress from this State will oppose any change in the present administration of the Surgeon-General's Library, and that they will use every justifiable means to preserve and protect that library under the same direction that has made it so peculiarly valuable and instructive to the entire medical profession of the United States.

PROF. W. H. FLOWER, F.R.S., has been awarded one of the royal medals of the Royal Society, of the value of fifty guineas, for his contributions to the morphology and classification of the mammalia, and to anthropology.

GUITEAU'S BRAIN.—DR. E. C. SPITZKA, at a late meeting of the New York Neurological Society, of which he is President, stated that the specimens of Guiteau's brain which he had examined showed all the signs of disease described in the official report published in THE MEDICAL NEWS. "He intimated that Dr. Dana's report in the *Medical Record* was 'fixed' to make it correspond with the editorial views expressed in that journal."

GIFT TO THE PACIFIC MEDICAL SCHOOL.—The dedicatory exercises of the new Cooper Medical College building were held in San Francisco on November 4th. The building was erected at a cost of one hundred thousand dollars, at the expense of Dr. L. C. Lane, and by him dedicated to the memory of his uncle, the late Dr. Elias Samuel Cooper, one of the early pioneers of California. The Pacific Medical College, which is reincorporated under the title of the Cooper Medical Faculty, retains its faculty unchanged.

PROSECUTION OF ILLEGAL PRACTITIONERS.—For practising medicine without complying with the laws of the State, several persons were arraigned in the New York city Police Court, last week, on complaint of Dr. David Webster, President of the County Medical Society. Eliso F. Marini, of No. 143 Prince Street, had no diploma. He was convicted of the same offence in Special Sessions on October 27th, and fined $50. He was held on the present charge in $500 bail. John F. A. Clausnitzer was accused of practising under the name of John C. Adams, at No. 29 Bleecker Street. He had a German diploma. He said that he could not afford to purchase a new sign, and so allowed the sign of Dr. Adams, who formerly occupied the premises, to remain where he found it. He was held in $300 bail, and at once deposited the money. George H. Schwab, of No. 59 Bond Street, had no diploma. He was held in $300. William H. Fuller, of No. 24 Varick Street, had a bogus diploma issued in Philadelphia, and was in consequence held in $300 bail. Francis E. Ruhenberg, a Swede, of No. 80 Christopher Street, advertised irregularly to cure diseases of the limbs. He was held in $300 bail.

PENALTIES FOR "SKIN" PLUMBING.—DR. HENRY D. NICOLL, of No. 7 West Thirty-ninth Street, New York, deserves the thanks of the community for his energy and courage in bringing to justice James McLoughlin, a plumber of No. 157 West Forty-first Street. Dr. Nicoll recently brought suit against McLoughlin in the Court of Common Pleas to recover damages for the "fraud and deceit" of the latter. It appeared upon the trial, from the testimony of Dr. Nicoll, Gen. F. T. Locke, and other reputable witnesses that Dr. Nicoll, in 1878, requested McLoughlin to examine the plumbing in his house and to report what alterations and repairs were necessary to put it in perfect condition. McLoughlin gave his estimate in writing with some detail, and the doctor instructed him to proceed according to the estimate.

In due time the plumber reported that every detail had been complied with, and his bill was paid in full.

Subsequently, from time to time, the doctor detected unpleasant odors pervading his house, which he attributed to sewer gas, and he called upon McLoughlin to put a fresh air inlet inside the main trap on the main drain. McLoughlin made objections, and thereupon the doctor called upon Messrs. Locke & Munroe to make an examination of the plumbing, and their workmen uncovered work which would seem fully to sustain the charge of "fraud and deceit." The house drain, which was of cast iron, and buried in the ground, had few joints caulked; the lengths of pipe were so laid that some pitched towards the house and some towards the sewer; it was impossible for water to run fully out of the drain, except at the open joints into the ground; two lengths of pipe were used which had holes drilled into them, and the refrigerator waste was simply dropped into a hole drilled into the drain pipe; in one place, two spiggot ends were simply laid together, surrounded by a piece of larger pipe, into the intervening space of which some cement had been thrown; and finally, no main trap was placed on the main drain, although the defendant had repeatedly informed the plaintiff that one was there.

The jury promptly rendered a verdict in favor of the doctor for $125.

Dr. Nicoll has rendered a valuable service, not only to the householders, but to honest plumbers by making an example of this man and establishing a healthy precedent. If this were more frequently done by persons who suffer by dishonest work of plumbers, there would be less bad work done and fewer occasions to inveigh against the craft.

We have noticed this case at length, in accordance with our policy to expose dangerous work whenever brought to our attention.—*Sanitary Engineer*, November 16, 1882.

AMSTERDAM EXHIBITION, 1883. — The Executive Committee of the International, Colonial, and Export Trade Exhibition to be held at Amsterdam, May to October, 1883, has resolved, at the suggestion of the Dutch Association for the Advancement of Medical Science, to add a section for colonial medicine, to be opened simultaneously with the colonial exhibition. The aim of this section will be to promote a knowledge of the sanitary and medical conditions in the colonies. The programme of the section divides its exhibit into three classes. The first class will embrace everything relating to the ministration of public health, such as water supplies, adulteration of food, intoxicating drinks, schools, prisons, cemeteries, sewers, cesspools, trades detrimental to health, measures against endemic, epidemic, and contagious diseases, prostitution, vaccination, vital statistics, etc. The second class will be devoted to data connected with the organization of the medical science in the colonies, in regard to which the several colonial governments follow different systems, and it is only by a careful comparative study of them that a correct judgment can be formed as to the best system to be adopted. The third class will have for its scope the attendance to and transport of the sick and

wounded, and will include models, plans, and drawings of hospitals, lunatic asylums, leprosies, etc., means of transport by land and water, medical literature, and native drugs. Objects of a commercial or not strictly scientific character will not be admitted into the section.

SMALLPOX IN SOUTH AMERICA.—This disease is prevailing in many parts of the country. It has been spreading among the population of Rio de Janeiro for many weeks back, but the health authorities have only recently declared the disease epidemic, and adopted active measures to restrain it. Vaccination has been made compulsory, but there is much difficulty experienced in obtaining good vaccine virus. The reports show 67 deaths from smallpox in the city during the week ending October 28th. At Desterro, St. Catharina Island, the disease is disappearing having apparently exhausted all the susceptible material. During the past nine months in this small municipality, having a population of about 8000, there have been 141 deaths from smallpox. About 10 per cent. of the cases were fatal. At Blumenan, a small German colony in St. Catharina province, of 27 persons who were seized with the disease, only 4 survived the attack.

CONTAGIOUS DISEASES IN NEW YORK CITY.—Dr. Janes, Assistant Sanitary Superintendent, has prepared the following table of contagious diseases reported at the Sanitary Bureau in the last three months, compared with the reports for the same months in 1881:

1881.	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-Spinal Men'gts.	Measles.	Diphtheria.	Smallpox.
September	2	132	270	26	37	302	48
October	0	138	425	17	48	390	53
November	27	129	607	18	183	398	74
Total	29	399	1,302	61	268	1,090	175
1882.							
September	1	117	88	20	21	116	2
October	0	147	110	12	40	153	3
November	0	68	124	12	60	185	3
Total	1	332	321	44	121	454	8

DIPHTHERIA IN PHILADELPHIA.—There has been no appreciable change in the mortality from diphtheria in Philadelphia during the week ending December 9th. The mortality is still excessive. The number of deaths for the week was 41, or one less than the number reported in the week preceding.

Deaths were reported in 19 out of 31 wards; and in 7 of these no deaths had been reported in the previous week. On the other hand, we find that in 8 wards reporting deaths from this cause in the week ending December 2d, not a death is reported for the week ending December 9th. These facts seem to indicate that strictly local influences are not the chief factors concerned in the propagation of the disease.

There were only 3 deaths in Frankford (where the disease has been most prevalent), against 7 in the preceding week; 5 in the 24th Ward, the same as last week; 4 in the 25th Ward, against 2 last week; 4 in the 16th Ward, where there were none last week; and 3 in the 15th Ward, where there were also none last week.

Nearly all the deaths were of children under 10 yeas of age. Under 10 years there were 37 deaths; between 10 and 15 years, 2 deaths; between 20 and 30, 1 death; and between 30 and 40, 1 death.

Cases of the disease are reported in 28 wards, the total number being 155, or 10 less than last week. The 3d, 5th, and 9th Wards reported no cases during the week. The greatest number of cases were reported in the 1st, 19th, 23d, 25th, 27th, and 29th Wards.

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending December 2, 1882, indicate that neuralgia has greatly increased, that cholera morbus has considerably increased, that diphtheria, erysipelas, and whooping-cough have increased, that intermittent fever has greatly decreased, and that typho-malarial fever has considerably decreased in area of prevalence.

Compared with the average for the month of November in the preceding five years, neuralgia and diarrhœa were more prevalent, and intermittent fever, pneumonia, whooping-cough, consumption, and diphtheria less prevalent during the month of November, 1882.

For the month of November, 1882, compared with the average of corresponding months in the preceding three years, the temperature was higher, the absolute and relative humidity more, and the day and night ozone less.

Including reports by regular observers and by others, diphtheria was reported present during the week ending December 2 and since, at twenty-six places, scarlet fever at fourteen places, and measles at five places. Smallpox was reported at Lyons, Ionia Co., December 1.

Sanitary inspectors report two cases of measles found among immigrants arriving at Detroit, during the week ending December 2.

OBITUARY NOTICE.—DIED on November 17th, PROF. GEORGE GULLIVER, F.R.S., F.R.C.S. Prof. Gulliver was born on the 4th of June, 1804, and received his medical education at St. Bartholomew's Hospital. In 1861 he was elected Hunterian professor of anatomy and physiology, and is best known by his researches on the chyle, blood, and lymph.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 4 TO DECEMBER 11, 1882.

MOORE, JOHN, *Major and Surgeon.*—The extension of leave of absence granted Nov. 3, 1882, is still further extended one month.—*Par. 4, S. O. 283, A.G.O.*, December 6, 1882.

CRAMPTON, LOUIS W., *Captain and Assistant Surgeon.*—Granted four months leave of absence.—*S. O., 280, A. O., G. December 2*, 1882.

GORGAS, W. C., *Assistant Surgeon.*—Relieved from duty at Fort Brown, Texas, and will accompany the 19th Infantry to Forts Clark and Duncan, Texas. Their future stations will be announced.—*S.O. 130, Department of Texas, November 27*, 1882.

MADDOX, T. F. C., *Assistant Surgeon.*—Relieved from duty at Fort Brown, Texas, and will accompany the 19th Infantry to Forts Clark and Duncan, Texas. Their future stations will be announced.—*S. O. 130, Department of Texas, November 27*, 1882.

REED, WALTER, *Captain and Assistant Surgeon.*—Assigned to duty as attending surgeon headquarters Department of the Platte.—*Par. 2, S.O. 127, Department of the Platte, December 4*, 1882.

TAYLOR, MARCUS E., *Captain and Assistant Surgeon.*—The leave of absence granted Aug. 14, 1882, is extended two months.—*Par. 6, S.O. 283, A.G.O., December 6*, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

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